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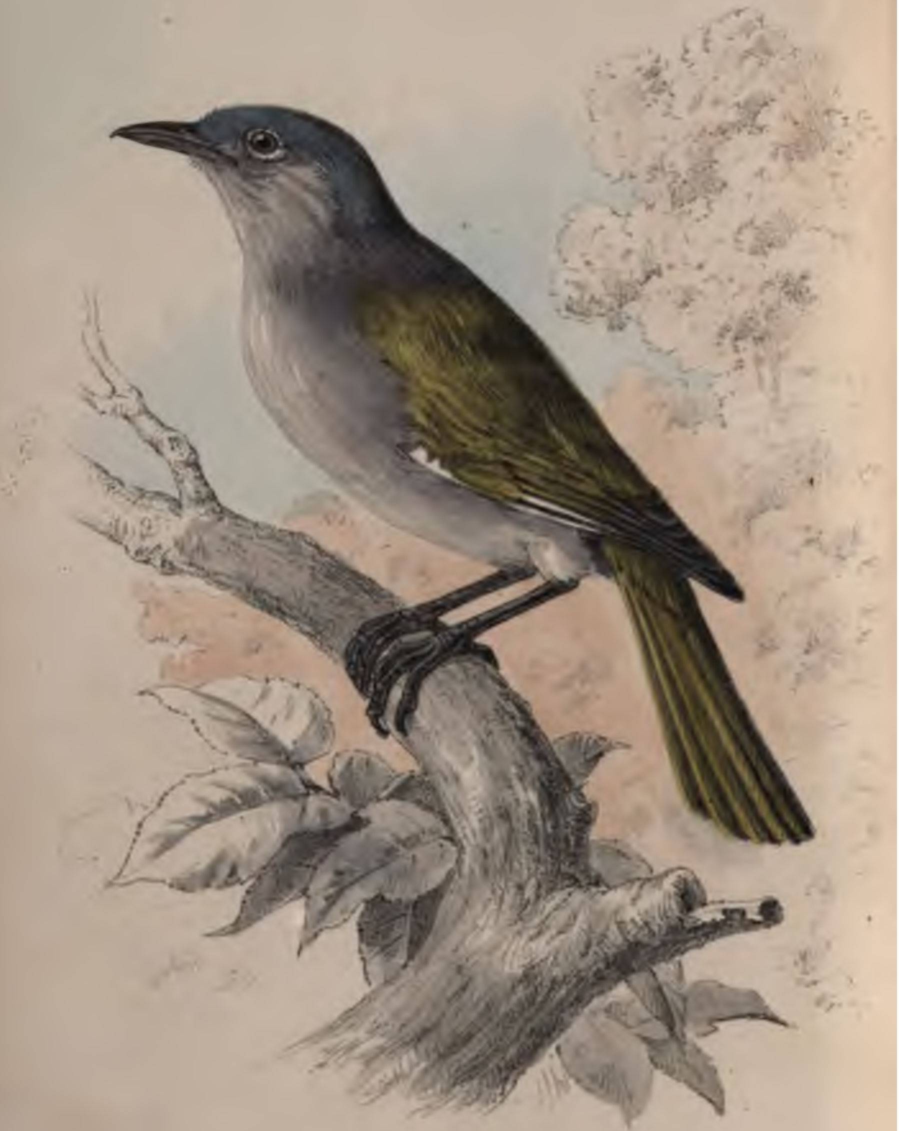

LIGEA PALUSTRIS.

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NEW SERIES. VOL. I

The Auk

A Quarterly Journal of Ornithology

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ELLIOTT COUES, ROBERT RIDGWAY, WILLIAM BREWSTER,
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THE AUK:

A QUARTERLY JOURNAL OF ORNITHOLOGY.

VOL. I. JANUARY, 1884. No. 1.

DESCRIPTIONS OF SEVERAL NEW BIRDS FROM SANTO DOMINGO.

BY CHARLES B. CORY.

Fam. SYLVICOLIDÆ.

Group GEOTHLYPEÆ.

Synopsis of Genera.

a. Bill slightly depressed and distinctly notched; rictal bristles very short, sometimes wanting; wings short and rounded, about the length of the tail; first primary shorter than fourth; tail long, rounded or graduated; legs short; tarsus as long as the head; belly yellow; legs yellow. *Geothlypis.*

b. Bill elongated, somewhat depressed, distinctly notched at tip; rictal bristles short; wings rounded and equal in length to the tail; tail long and rounded; legs and feet stout; tarsus not as long as the head; belly and legs not yellow. *Ligea.*

Ligea* **palustris** gen. et sp. nov. PLATE I.

Adult male: Crown, nape, and upper portion of back slaty-plumbeous; rest of back and upper surface of wings and tail yellowish-green; throat, breast, and sides grayish-plumbeous, showing a dull orange tinge on the sides, darkest on the flanks; middle of the throat with a slight grayish tinge, and the middle of the belly distinctly white; outer webs of primaries, and most of the secondaries yellowish-green, giving to the wing a general greenish appearance; inner webs of primaries dark brown, apparently slate color in some lights; under surface of tail dull green; eyelids white.

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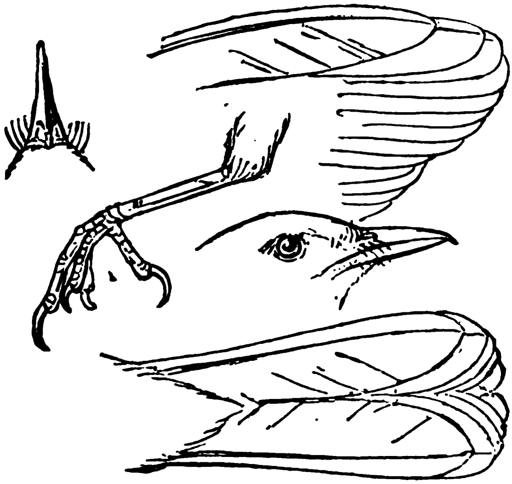


Length, 5.50; wing, 2.50; tail, 2.50; tarsus, .75; bill, .50; middle toe, .40.

Female: General appearance of the male, but differs from it by underparts being tinged with olive, mixing with the gray, and top of the head green, showing the slate color faintly.

Hirundo sclateri, sp. nov.

Adult male: Above bright bluish-green, showing a golden color in some lights, becoming decidedly blue on the forehead; upper surface of wings and tail showing a tinge of dull blue, brightest on the tail; underparts pure white; primaries brown; bill and legs very dark brown.

Length, 5.25; wing, 5.75; tail, 2.00.

The present species differs decidedly from *Hirundo euchrysea* from Jamaica, that species having the upper parts bright golden-green, and lacking the blue on the forehead entirely. The Santo Domingo bird is also larger, and the bill is apparently somewhat more slender.

Dr. Bryant mentions the present bird in his list as "*H. euchrysea* (var. *dominicensis?*)," stating that on account of its smaller bill it might be a variety, but he gives no description by which it can be indentified.

I have named this species in compliment to P. L. Sclater, Esq., of London, England.

The following species were described by me some months since, but having lately received other specimens, I redescribe them and add descriptions of the female and young. I have also raised one of them to the rank of a new genus.

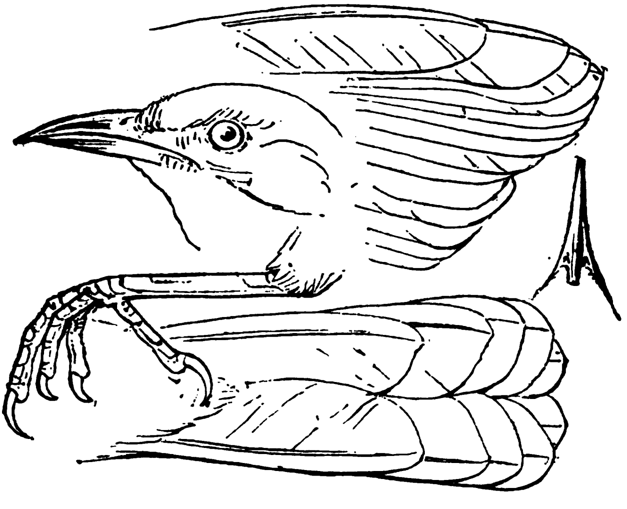
Fam. TANAGRIDÆ.

Calyptophilus,* gen. nov.

The present genus has the general appearance, at first glance, of *Phœnicophilus*, but is easily separated from it by the following characters:

a. Tail short, about four-fifths as long as the wing; middle toe about two-thirds of tarsus; tail square, slightly emarginate. *Phœnicophilus.*

b. Tail long, equal to wing; middle toe about five-sixths of tarsus; tail rounded, and strongly graduated; bill much narrower, and the legs and feet larger than in *Phœnicophilus.* *Calyptophilus.*



Calyptophilus frugivorus.

Phœnicophilus frugivorus Cory, Journ. Boston Zoöl. Soc., II, No. 4, Oct. 1883, p. 45.

Male: Top of the head brown, shading into ashy on the neck, behind the eye; rest of the upper parts, including back and upper surface of wings and tail, brownish-olive; throat white; breast white, becoming ashy upon the sides; flanks brownish-olive, the olive mixing with white upon the crissum; primaries and secondaries olive-brown, the inner webs edged with very pale brown: a patch of bright yellow under the base of the wing, extending upon the carpus; eye encircled by a very narrow line of bright yellow, and a spot of yellow in front of the eye at the base of the mandible; upper mandible dark brown; lower mandible yellowish-brown, darkest at the base.

---

* Καλυπτος, φιλέω.

Length, 8.00; wing, 3.50; tail, 3.50; tarsus, 1.00; middle toe, .82; bill, .70.

The female is perhaps somewhat duller, and some specimens appear slightly smaller, but otherwise resembles the male.

Rupornis ridgwayi.

Rupornis ridgwayi CORY, Journ. Boston Zoöl. Soc., II, No. 4, Oct. 1883, p. 46.

Female: Top of the head and neck brownish-ash, becoming darker on the back; the feathers of the back and tertiaries edged with rufous; underparts dark rufous, the feathers narrowly banded with white; thighs showing the rufous much brighter, the feathers banded with very fine pale lines; crissum white, with rufous bands near the tips; under part of breast slaty, shading into dull white on the throat; the shafts of the feathers on the throat and breast dark brown, showing in hair-like lines; wings and tail dark brown, imperfectly banded with white, and showing various shadings of dull rufous; all the primares imperfectly banded with white, gradually becoming fainter on the outer webs, until just perceptible on the sixth; the rest of primaries and secondaries with the outer webs dark brown and the inner webs thickly banded with white, showing traces of rufous.

Length, 14.50; wing, 10.00; tail, 6.50; tarsus, 2.75; bill, 1.25.

Male: Since the above description was written I have received two males from the same locality. In general plumage they are similar to the female, with the exception that there is much less rufous on the underparts, where this color is replaced by a slaty cast; the thighs have the rufous somewhat brighter, and the bird, as would be expected, is smaller.

Length, 13.75; wing, 9.00; tail, 6.00; tarsus, 2.75; bill, 1.20.

Immature male: In general appearance much like *Buteo pennsylvanicus*; underparts dull white, the feathers slightly tinged with rufous, the centre of the surface feathers showing a stripe of brown, giving the body a striped appearance; thighs rufous, but paler than in the adult: above much resembling the adult; the white wing and tail bands replaced by rufous bands on the terminal half of the feathers.

I have named this species in compliment to Robert Ridgway, Esq., of Washington, D. C.

Œdicnemus dominicensis.

Œdicnemus dominicensis CORY, Journ. Zoöl. Soc., II, No. 4, Oct. 1883, p. 46.

Male: Top of the head, back, wing-coverts, and tail brown; feathers with very pale edgings, giving a mottled appearance to the back; the tail feathers showing a band of dull white, succeeded by a broad black tip; breast slaty, becoming dull white on the throat; abdomen white, tinged with very pale rufous; a line of black passing from the top of the eye along the sides of the head to the neck; under surface of wings white, becoming dark brown at the tips; the shafts of the feathers on the breast and throat dark brown, forming numerous hair-like lines on the surface of the plumage; legs and feet greenish-yellow; upper mandible black; under mandible green at the base, shading into black at the tip; iris yellow.

Length, 14.50; wing, 8.50; tail, 3.75; tarsus, 3.75; bill, 1.50.

The sexes appear to be similar.

NOTES ON THE SUMMER BIRDS OF BERKSHIRE COUNTY, MASSACHUSETTS.

BY WILLIAM BREWSTER.

Probably no other area of similar extent in Massachusetts has held out as inviting a field to the ornithologist as Berkshire County. Owing to its elevated, mountainous character it has been long suspected to harbor certain northern birds not known to summer elsewhere, at least regularly, within our limits, and speculations have been more or less freely indulged in by writers as to the species that breed there. But rather curiously no one — or at least no competent observer — seems to have cut the Gordian knot byinvestigating the region at the proper season, so that at this late date we actually have no definite information regarding it. With the hope of doing something towards filling this blank I visited the county last summer (1883) and explored the northern portion of it, — rather hurriedly it must be confessed, but still with sufficient thoroughness to acquire very much more than a superficial knowledge of its summer birds. My stay extended from June 21 to June 29, thus embracing a fair share of that brief period when the waves of migration are at rest, and birds of nearly every kind engaged in reproduction. Hence it is reasonable to assume that all the species found in numbers were established for the summer and breeding. This consideration is important inasmuch as I found but few nests.

Williamstown. The first three days were spent at Williamstown whence excursions were made for several miles in every direction. The surrounding country is hilly and well watered, but sparsely timbered, most of the land being under cultivation. In its general features it resembles portions of Worcester County, but the neighboring mountains are of course very much higher than any in Eastern Massachusetts; indeed, Mt. Graylock, which lies only four miles to the eastward of the town, is the highest point in the State, having an elevation of 3500 feet.

The woods are composed chiefly of beeches, rock maples, chestnuts, paper and yellow birches, white pines and hemlocks; with sycamores, Balm-of-Gilead poplars, red maples, elms, and hornbeams (*Carpinus americana*) along the streams. There are no firs and few spruces except on the mountains.

The bird fauna, to my surprise, proved to be not only strictly Alleghanian, but actually identical, save in the apparent absence of two or three species, with that of many parts of Middlesex County, in Eastern Massachusetts. Thus there were Bluebirds, House Wrens, Yellow Warblers, Warbling and Yellow-throated Vireos, Cedar Birds, Purple Martins, Cliff, Barn, and White-bellied Swallows, Purple Finches, Goldfinches, Song Sparrows, Baltimore Orioles, Crow Blackbirds, Kingbirds, Wood Pewees, Least Flycatchers, and Golden-winged Woodpeckers about the cultivated grounds and orchards; Chickadees, Black-and-White Creepers, Ovenbirds, Redstarts, Wood Pewees, and Red-eyed Vireos in the woodlands; Savanna Sparrows, Bobolinks, Meadow Larks (not common), and Red-winged Blackbirds on the meadows and broad, grassy intervale farms; Wilson's Thrushes, Catbirds, Maryland Yellow-throats, and Chestnut-sided Warblers in the thickets along water courses; Grass Finches, Field Sparrows, and Indigo Birds on the rocky hillside pastures; and Robins, Crows, and Bridge Pewees nearly everywhere. Among the species apparently absent but to be expected * in such company, may be mentioned the Wood Thrush, Brown Thrasher, Nashville Warbler, White-eyed Vireo, and Swamp Sparrow. Several of these, as well as others which might be included in the same category, were observed only a few miles distant, but in localities of more or less different character from those above indicated.

---

* Several farmers told me that the Quail (*Ortyx virginiana*) formerly occurred in small numbers, but I obtained no positive proof of this.

Pownal, Vermont. The following notes were made June 23, during a drive to Pownal Pond, a small sheet of water about twelve miles to the northward of Williamstown in Pownal, the border township of Vermont. Although the locality does not come strictly within the scope of the present paper, it seems to me worth brief mention in this connection.

After passing the State line a marked change was apparent in the topography of the country. The surface became more broken and the hills higher, many of them in fact being low mountains. They were mostly cleared and cultivated, or in pasturage, nearly to their summits, which were usually tufted with woods. Altogether, the land had a more fertile aspect, especially on the mountain sides.

The bird fauna did not differ strikingly from that of Williamstown, and showed no traces of any decided Canadian infusion. The species observed which had not been previously noted at Williamstown were the Hermit Thrush, abundant and in full song in an extensive larch swamp; the Nashville Warbler, one specimen; the Swamp Sparrow, one; Henslow's Sparrow, a pair feeding young in a meadow bordering a brook; the Yellow-winged Sparrow, a single male, singing on a fence stake by the roadside; the Olive-sided Flycatcher, a pair at work on a nearly finished nest built close to the stem of a young larch in the swamp just mentioned; and the Great-crested Flycatcher, of which at least half-a-dozen were seen and heard. The Nashville Warbler and the Yellow-winged Sparrow were not met with at all in Berkshire County, but the Swamp Sparrow was afterwards found sparingly along the course of a brook near the base of Mt. Graylock, the Hermit Thrush and Olive-sided Flycatcher proved to be abundant on the sides of that mountain, and several Henslow's Sparrows were observed in a meadow near the town of Adams.

The Hopper. On the afternoon of June 24, I left Williamstown and took up my quarters at a farm house at the head of a picturesque valley locally known, from its peculiar shape, as the "Hopper." This valley is a *cul de sac*, opening to the westward and walled in on the other three sides by Mt. Graylock and its neighboring summits, Prospect and Bald Mountains. Although lying at a considerable elevation above Williamstown, and shut in by towering mountains, the main valley differed little in general appearance from the low country to the westward. Its fertile acres were similarly devoted to corn fields, mowing lands, orchards, and pastures, which offered nothing more interesting than Robins, Yellow Warblers, Field Sparrows, Grass Finches, Song Sparrows, Bobolinks, Orioles, Kingbirds, etc. Even the mountain sides, as far up as I explored them (to an elevation of about two or three hundred feet above the valley), seemed to harbor in their hard-wood forests, only such familiar woodland birds as the Ovenbird, Red-eyed Vireo, Scarlet Tanager, Rose-breasted Grosbeak, and Wood Pewee. This was disappointing, and I began to fear that I should find nothing of importance short of the summits of the mountains, when by chance I wandered into a ravine that extended back for a mile or more between two outlying spurs of Graylock.

Like most mountain glens this had a sparkling brook that brawled noisily over pebbly shallows, plunged impetuously down ragged ledges, swept silently between vertical rocky walls fringed with drooping ferns, and anon settled for a brief rest in pools where trout lurked in the shadows and water spiders dimpled the otherwise unruffled surface. The mountain sides rose steeply on either hand, in places narrowing the bed of the ravine to a width of only a few rods, in others retreating far enough to leave level stretches several hundred yards in extent. The ground everywhere was densely, often heavily, timbered with beeches, red and rock maples, paper and yellow birches, basswoods, etc., with a sprinkling of black spruces and an undergrowth, especially about the openings, of mountain maple (*Acer spicatum*), striped maples (*A. pennsylvanicum*), and hobble-bushes (*Viburnum lantanoides*); while a few scant beds of ground hemlock (*Taxus baccata canadensis*) clung to the steeper slopes. Long after the morning sun had flooded the valley outside, this solitary glen lay in chill shadow, and even at noontide it was invariably damp and cool, especially under the trees. These conditions, aside from those of elevation, flora, etc., doubtless attracted certain birds and repelled others; at all events the place held a rather curious mixture of bird-life.

The number of species was apparently small, for in the course of four visits I detected only eighteen; viz., the Robin, Wood Thrush, Wilson's Thrush, Black-capped Chickadee, Chestnut-sided Warbler, Black-throated Green Warbler, Mourning Warbler, Canada Flycatcher, Ovenbird, Redstart, Red-eyed Vireo, Scarlet Tanager, Black Snowbird, Rose-breasted Grosbeak, Pileated, Hairy, and Downy Woodpeckers, and the Ruffed Grouse. Of these the Wood Thrush, Wilson's Thrush, Ovenbird, and Red-eyed Vireo were abundant; the Robin, Chickadee, Black-throated Green Warbler, Canada Flycatcher, Scarlet Tanager, Grosbeak, and Grouse, common; the remainder more or less rare.

I saw only one specimen each of the Mourning Warbler and Snowbird. The former, a beautiful male, was shot near the brook about a quarter of a mile above the entrance to the ravine. It was singing among some bushes on the edge of an opening grown up to wild raspberry vines—just such a place in fact as the bird commonly chooses for a breeding ground in Northern New England, and I have little doubt that its mate was sitting on her eggs somewhere near, although I tramped the brush through and through without flushing her.

The Snowbird was also in this opening. Unlike the Warbler, he was silent and apparently ill at ease. Probably he had wandered down from the heights above for a brief visit only, perhaps to hear the Wood Thrush sing, more likely for a bath in the brook; at all events, he was gone when I returned an hour later.

Pileated Woodpeckers were seen and heard at various places in the ravine, but they are such rovers, and withal so noisy and conspicuous, that I may have met the same birds several times. On one occasion, while watching a Canada porcupine basking in the sun on the branch of a mountain maple, every now and then nibbling at its tender shoots in the leisurely way peculiar to his phlegmatic race, I heard the Flicker-like call of one of these Woodpeckers on the mountain-side above. Hastily concealing myself I imitated his tapping by striking the palms of my hollowed hands together, and almost immediately two of the superb birds appeared and alighted against the trunk of a beech directly overhead. As they chased one another upwards their scarlet crests flashed like fire among the leaves. Reaching a decayed branch they attacked it from opposite sides fairly bombarding me with pieces of bark and chunks of rotten wood. When at length they discovered me, they were off in an instant, each swinging down in a long graceful curve as he disappeared among the trees.

What with porcupines, Logcocks, Mourning Warblers, moosewood (*Viburnum lantanoides*), and every now and then a mountain butterfly alighting for a moment in the path before me and slowly opening and closing its velvety wings, I found it difficult to believe that I was really in my native State, and not in some retired forest of northern Maine or New Hampshire.

The Hermit Thrush might perhaps be mentioned in this connection, for I occasionally caught the tones of his bell-like voice stealing down from some elevated point on the mountain side. But he did not properly belong among the dwellers of the glen, any more than did a Golden Eagle, which I saw one day circling high above it. These Eagles, by the way, are apparently far from rare here, for the museum at William's College* contains no less than four specimens which have been taken near Williamstown, and the farmers in the "Hopper" assured me that the bird breeds every season on Graylock.

Mt. Graylock. While in the "Hopper" I often looked longingly up at the dark spruce forest on the brow of Graylock, feeling sure that it must shelter many of the birds of which I was in search; but the western approaches to the summit of that mountain are so steep and difficult that I decided to finish the low country first and make the ascent from Adams, on the eastern side. The day chosen for this undertaking (June 28) proved exceptionally favorable; there had been rain over night, and through the forenoon great ragged clouds—the afterbirth of the storm—trailed their cooling shadows across the landscape, while occasional showers, followed by intervals of sunshine, completed the conditions for one of those rare days when birds sing almost uninterruptedly from daylight until dark. It was so still, too, that their songs could be heard at unusual distances.

I started early, on horseback, taking an assistant to look after the animals, as well as to assist at removing obstructions in the old and now nearly obliterated bridle path. For the first mile or two the way led through a succession of steep pastures more or less grown up to shrubby spruces, with occasional thickets of young beeches and, along the streams, some larger beeches, sugar maples, and birches (*Betula lutea* et *papyracea*). The characteristic birds in this lower zone or belt were Robins, Hermit Thrushes, Black-and-Yellow Warblers, and Blue Jays, among the spruces; Wood Thrushes (not observed beyond the end of the first mile from the base), Wilson's Thrushes, Red-eyed Vireos, and Maryland Yellow-throats, with an occasional Redstart and Canada Flycatcher, along the streams; and Grass Finches and Snowbirds over the more open ground. In one place near the edge of a field of oats, I also found a single pair of Savanna Sparrows.

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* There are also two Williamstown Ravens in this collection, one taken in 1877, the other without a date; and a Bohemian Waxwing marked simply "Male, Williamstown, Mass."

A little more than half-way up, these pastures ended and the path, after winding through a belt of heavy timber, tenanted only by Red-eyed Vireos and Black-throated Green Warblers, ascended a steep ridge and entered a level stretch sparsely covered with old, moss-grown birches. Here we found a few Snowbirds and a White-throated Sparrow, which proved to be the lower outpost, as it were, of the Canadian region which I was seeking.

Climbing another ridge that for the last mile or two had shut out all view of the summit, we paused on the threshold of a tract differing widely in character from anything that we had hitherto passed. It was a narrow plateau, extending in a semicircle around the eastern side of the mountain, between the ridge just mentioned and the final peak or summit, and for the most part comparatively level, although more or less broken by knolls and shallow ravines. This area, as well as the sides of the peak itself for some distance above the base, had been cleared of the original timber, but the ground was fast becoming covered with a vigorous second growth of maples (*Acer spicatum*) and birches (*Betula lutea* et *papyracea*), which in places had attained an average height of at least fifteen feet, while in others they failed to conceal the unsightly piles of cord-wood that marked the scene of the wood-choppers' labors during the preceding winter. At intervals a few scattered spruces of fair size and many tottering birch stubs had been left standing, and the thickets were cumbered with decaying logs and heaps of severed tree tops.

Before we had time to note these details, in fact at the very moment of drawing rein on the outskirts of this tract, I became aware that the goal of my hopes was reached. A shower had just passed and for a brief space, as the sun, peeping through a rent in the clouds, threw an intense light on the sea of wet.

glistening foliage, the air fairly rang with bird music. Sitting motionless in the saddle, straining my ears to catch the more distant sounds, as well as to disentangle the nearer ones, I quickly identified the measured chant of the Olive-backed Thrush, the liquid tinkling melody of the Winter Wren, the sweet, gushing trill of the Mourning Warbler, the wheezy song of the Black-throated Blue Warbler, the ringing whistle of the White-throated Sparrow, the low plaintive note of the Yellow-bellied Flycatcher, and the penetrating call of the Olive-sided Flycatcher, —at least three additions to the summer fauna of Massachusetts within less than as many minutes!

After the volume of sound had ebbed to its normal level we pursued our way, pausing often to listen, or dismounting to look for nests, or follow up some shy bird. The latter exertion, however, was scarcely needed, for most of the rarer species were present in such numbers that they were continually in sight or hearing. The Mourning Warblers and Winter Wrens were especially abundant, more so in fact than I have ever seen them elsewhere, and dozens of specimens might have been procured without leaving the path. The Olive-backed Thrushes, Black-throated Blue Warblers, and White-throated Sparrows were also common, but I found, or at least positively identified, only one pair of Yellow-bellied Flycatchers. To this list I shortly added the Yellow-bellied Woodpecker, several pairs of which were seen, one feeding young in a nest in one of the larger birch stubs; the Hairy Woodpecker, which proved to be rather common; and the Pileated Woodpecker, whose presence was attested by its unmistakable "peck-holes," although none of the birds were actually observed.*

The species just mentioned were of course not the only ones found here, although many of them were among the most abundant and conspicuous. But there was in addition a sprinkling of such ubiquitous birds as the Robin, Bluebird, Maryland Yellow-throat, Scarlet Tanager, and Catbird. I also came upon a pair of Towhee Buntings which, rather curiously, were the only individuals met with in Berkshire County. They were feeding young already on wing in a thicket where their nearest neighbors were Winter Wrens and Mourning Warblers.

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* I also find the Black-backed Three-toed Woodpecker included in my notes on the following evidence, which, while certainly not strong enough to warrant a positive record, is worth mentioning: We were skirting a swampy tract of spruces spared, for some unaccountable reason, by the lumbermen, when I heard a Woodpecker "drumming" on a resonant limb. The next moment it called once or twice, but I could not get a sight at it, although I dismounted and searched the swamp in every direction. That it was a *Picoides* I have not the slightest doubt, but I am by no means certain as to whether it was *arcticus* or *americanus*, the notes of the two species being very similar. The chances of course favor the larger and commoner (as well as perhaps more southern) species, to which, indeed, I referred it without much hesitation at the time.

At the point where the bridle path left this opening it plunged directly into a forest made up of spruces (*Abies nigra*) and balsams (*A. balsamifera*), with a mixture of yellow birches and a scant undergrowth of mountain ash, mountain maple, and hobble-bush. These woods continued without a break to the summit, a distance of nearly a mile as the path ran. They were very beautiful—the trees of fairly large size and evident antiquity, although more or less dwarfed and spreading. The ground beneath was firm, moderately open, and so free from rocks or holes that we often left the trail and rode at will between the trees. I had expected to find many birds here, but they proved far from numerous. I detected only two species not seen elsewhere, viz., the Red-bellied Nuthatch and Blackburnian Warbler. The former was not uncommon, but I saw only one Blackburnian—a beautiful male in full song among the branches of a spruce which overhung the path. I also discovered a neatly finished but empty nest of the Olive-backed Thrush. It was built in the top of a fallen fir, and so nicely concealed that I should have passed without noticing it had not the bird fluttered off, as I brushed the end of the branches. These Thrushes were more numerous here than in the opening below, and their music was often the only sound that broke the silence. I scrutinized them closely, hoping to find a stray *bicknelli* among them, but all that I saw or heard were unmistakably common Olive-backs.

The summit of Graylock was cleared years ago to afford a better view, but the surrounding woods have thrown out an advance guard of saplings which are fast recovering the lost ground. There is still a small open space, however, covered with wild grasses, among which I noticed buttercups but no sub-Alpine flowers. About this opening I found—in addition to the generally-distributed Olive-backs, Canada Flycatchers, and Snowbirds—a few Black-throated Green Warblers, a single Ovenbird (*Siurus auricapillus*), a Purple Finch, and a little party of Chimney

Swifts, which were careering about close over the bushes and turf, evidently reaping a rich harvest of insects. The most abundant species was the Snowbird, more numerous here than elsewhere on Graylock. This bird seems to have a particular fondness for bare mountain tops of whatever altitude.

We left the summit at about two o'clock and spent a long afternoon in the descent, repeating many of the episodes of the morning, finding nothing not already mentioned, and reaching the base barely in time to hear the Bobolinks bid good night to the sun. Looking back at the rosy haze fast deepening into purple shadows under the brow of the mountain, it was hard to realize that the day's experience had not been a delightful dream.

Recapitulation. Judging from what I saw of it, the low country (i.e., the valleys along the streams and the hills of moderate elevation) of northern Berkshire County has a nearly pure Alleghanian Fauna. Indeed I failed to find there a single bird which does not breed regularly within ten miles of Cambridge, although a few species common and universally distributed in the eastern portion of the State were apparently absent. Conspicuous among these were *Harporhynchus rufus*, *Dendrœca pinus*, and *Pipilo erythrophthalmus*. Minor differences, due possibly to local causes, were the scarcity of *Helminthophila ruficapilla*, *Geothlypis trichas*, and *Melospiza palustris*, and the restriction of *Turdus mustelinus*, *Pyranga rubra*, and *Goniaphea ludoviciana* to the mountain sides or their intersecting water courses. But except for these slight differences the birds met with during a morning walk along the roads and through the woods and meadows about Williamstown or Adams* were identical with those which occur almost everywhere in Middlesex County.

At the base of the mountains or rather a little way up on their sides, and in such elevated glens as that at the head of the "Hopper," one would indeed find a few Canadian forms, such as *Dendrœca maculosa*, *Geothlypis philadelphia*, and *Junco hiemalis*; but it was only a sprinkling, for the border line, at least on Graylock, was drawn sharply at an elevation of probably not less than 2500 feet. The only true Canadian birds which I found in any numbers below this line were *Dendrœca maculosa*, *Geothlypis phildelaphia*, and *Junco hiemalis*. Above it *Turdus swainsoni*, *Anorthura hiemalis*, *Dendrœca cærulescens*, *Geothlypis philadelphia*, and *Zonotrichia albicollis* were abundant and unmistakably breeding, while *Sitta canadensis* and *Sphyrapicus varius* were moderately common, and *Dendrœca blackburnæ* and *Empidonax flaviventris* at least sparingly represented.

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* Mr. Allen tells me that he has seen Snowbirds in July on the outskirts of North Adams, but it must be remembered that they can descend from the neighboring mountains in a few minutes and doubtless they, with most of the other mountain birds, do actually visit the low country as soon as their young are able to fly, and long before the arrival of the northern migrants.

In addition to these there were also the northern but not strictly Canadian forms *Myiodioctes canadensis* and *Contopus borealis*; the former ranging from the base to the summit, the latter confined to the area above the line just indicated. Rather curiously, *Turdus pallasi* and *Dendrœca maculosa* were not found above this line although both extended well up to it.

Among the species just mentioned four, viz., *Turdus swainsoni*, *Dendrœca maculosa*, *Geothlypis philadelphia*, and *Empidonax flaviventris*, have not, to my knowledge, been previously found summering in Massachusetts, and *Anorthura hiemalis* has been detected only once (Lynn; see Bull. N. O. C., Vol. VIII, pp. 119, 120). Of the others, *Turdus pallasi*, *Myiodioctes canadensis*, *Junco hiemalis*, and *Contopus borealis* have been long known to breed sparingly or locally; *Dendrœca cærulescens* has been found nesting in Connecticut (Ibid., Vol. I, pp. 11-13), as well as occasionally observed during summer in the western part of Massachusetts; *Zonotrichia albicollis* has been found breeding (a single instance) at Framingham (Ibid., Vol. V, p. 52), and *Sitta canadensis*, *Dendrœca blackburnæ*, and *Sphyrapicus varius* have been recorded on more or less good authority as occurring in summer in various parts of the State.

To return to the general subject. The nearly unmixed Alleghanian character of the region at large is so strongly marked that Graylock may be fitly characterized, in faunal language, as a Canadian island rising from an Alleghanian sea. Like the Catskills and some other outlying districts of the Canadian system, it is probably cut off from the mainland of such non-migratory Canadian forms as *Parus hudsonius*, *Perisoreus canadensis*, and *Canace canadensis*, but, on the other hand, it seems to attract a large proportion of the migratory Canadian species. Some of the neighboring mountains, to continue the simile, doubtless also form Canadian islands, and there are probably many reefs—mountains of low elevation—where the area above high-water mark is sufficient to support only a few northern forms. It may be fairly questioned, however, if elevation here, as well as in other mountainous regions, is the sole factor governing the distribution of birds. That it is the chief one cannot be disputed, but certain birds are apparently influenced very strongly in their choice of breeding grounds by the presence or absence of certain trees or shrubs in which they are accustomed to build their nests. The flora of any given area is of course largely determined by altitude, but it may be materially affected, and even radically changed, by man's interference. For instance, in the region under discussion, spruces and firs are said never to reappear after the first cutting, the second-growth being invariably of hard woods ; and, if tradition can be believed, several of the mountains near Graylock, which are now covered with beech, maple, birch, etc., originally had extensive tracts of "black growth," i.e., spruce and fir. Surely such changes must materially affect bird-life.

Graylock is in a state of transition. It still has large areas of spruces, but they are rapidly disappearing, and the character of the mountain is likely to undergo a great change within the next twenty-five years. It will be interesting to watch if the birds change also.

Of the fauna of the neighboring mountains I cannot speak positively, not having explored them to their summits ; but I shall be surprised if they prove to harbor anything like the number of northern species which occur on Graylock.

DESCRIPTION OF THE FIRST PLUMAGE OF CLARKE'S CROW.

BY CHARLES F. BATCHELDER.

In Colorado last spring, at a station known as McGee's, on the Denver and South Park R.R., in Chaffee County, I had the good fortune to obtain a specimen of Clarke's Crow in first plumage. As no account of the bird in this early stage has, I believe, ever appeared, the following description may be of interest.

Picicorvus columbianus, *juv., first plumage* (♀, No. 1340, Coll. C. F. B., McGee's, Chaffee Co., Colorado, May 11, 1883). Above dull brownish gray. much darker than in the adult, darkest on rump and scapulars; upper tail coverts nearly black, but with a brownish tinge instead of the metallic blue-black of the adult.

Forehead and sides of head brownish ash, lighter than back, but the pearly tint of the adult is everywhere replaced by brownish. Nasal feathers dark brown. A dusky loral spot. The white supercilliary stripe and eye-ring, and other white about the face present in the adult, are wanting. The chin, however, is ashy white, with a few darker feathers scattered through it.

Beneath the general coloring is brownish ash, darkest on the breast. Most of the feathers of the throat, breast, and belly are tipped with ashy white, which gives an indistinctly barred effect to the plumage. Some of the feathers of the sides and rump are also tipped with white.

Wing similar to the adult. The white of the secondaries, however, extends along the margin of the outer web farther toward the base. There is also a small ashy spot at the apex of the seventh primary, and traces of the same on the eighth, ninth, and tenth primaries. The secondary coverts are obscurely tipped with white; and the under wing-coverts have conspicuous white tips. Tail similar to that of the adult; but the black lines on the shafts of the rectrices extend nearer to the tip (three-fifths of its length in the fourth rectrix); the black on the inner webs of the outer four rectrices * extends along the shaft farther from the base; and on the fifth the white covers the end of the inner web for a fifth of the way to the base, runs up the middle of the web at least as much more, and extends along the edge of the web two-thirds of the way to the base. Under tail-coverts white, as in the adult.

The bill was dark gray; and the feet were gray.

I give the following measurements (in centimetres), and add for comparison the average of those of six adults. All the measurements are from dried skins.

♀, juv., No. 1340 (first plumage): Wing, 17.80; tail, 10.40; culmen, 2.95; commissure, 3.40; depth at nostrils, 1.00; width at nostrils, 1.05; tarsus, 3.30; middle toe, 2.40; middle claw, 1.10.

Average of six adults: Wing, 19.28; tail, 11.73; culmen, 4.11; commissure, 4.53; depth at nostrils, 1.25; width at nostril, 1.16; tarsus, 3.54; middle toe, 2.63; middle claw, 1.28.

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* In the published descriptions of this species I can find no reference to this black marking, which seems to have been overlooked, authors stating that the outer four pairs of rectrices are "white."

NOTES ON THE BREEDING HABITS OF THE AMERICAN EARED GREBE (*DYTES NIGRICOLLIS CALIFORNICUS*).

BY N. S. GOSS.

JUNE 4, 1877, I had the pleasure of finding about one hundred pairs of these birds nesting in a little cove of Como Lake — a small alkali lake without outlet, in the Territory of Wyoming, on the line of the Union Pacific Railway; altitude 6680 feet. The nests were in a narrow strip of rushes, growing in water eighteen inches deep, and about one hundred and thirty feet from the shore; between the rushes and the shore was a heavy growth of coarse, marsh grass, the whole covering not over from one to one and one-half acres in area. The bank being a little higher than the ground back of it, the approach could be made unobserved, and my appearance, so unexpected and near, gave the birds no time to cover their eggs, as is their wont, giving me a fine opportunity, on wading out, to see the eggs in their nests. I collected the eggs from two nests, five in each; and counted from where I stood over twenty nests, with from one to five eggs each. Quite a number of others were completed, but without eggs, and still others were building. The floating nests were made of old broken rushes, weeds, and debris from the bottom, and were partially filled in and around the standing, growing rushes. There were no feathers or other kind of lining. They were from five to ten inches in diameter; the outer edge or rim was from two to three inches above the water. The eggs in several touched the water, and were more or less stained in their wet beds. The color of the eggs when fresh was white, with a slight bluish shade. The average measurements of the ten eggs was 1.81 by 1.20 inches. I watched the birds closely during the three days I remained there. Those out upon the lake were noisy and active, keeping near the centre and closely together. It was their courtship and mating ground, but the birds in going to and from their nesting places were silent and watchful. In leaving their nests they would dive and come up quite a distance away and swim rapidly for the flock in the lake. I noticed at all times, not far from the breeding grounds, from five to eight birds, evidently sentinels, sitting upon the water with their heads high, ever upon the lookout and ready to give the alarm, but slow to leave their station,—in fact never leaving the little bay, but taking good care to keep out of reach. As soon as I passed by, the birds, frightened from their nests, would cautiously but quickly return and join the sentinels, from which point they would dive and come up within the rushes. In no instance did I see them swim to or from their nests; they may, however, do so when not disturbed.

As papers of this character are written solely to present the observations and views of different writers in order that in the end the history of the subject may be known and correctly given, I will say that Mr. H. W. Henshaw, in a paper of like character (Am. Nat., V, 1874, p. 243), states that he found the birds nesting in similar lakes in Southern Colorado, but I think he is somewhat in error in the conclusions reached, as given in the following statement: "The eggs were wholly concealed from view by a pile of weeds and other vegetable material laid across. That they were thus carefully covered merely for concealment I cannot think, since in the isolated position in which these nests are usually found, the bird has no enemy against which such precautions would avail. On first approaching the locality the Grebes were all congregated at the further end of the pond, and shortly betook themselves through an opening to the neighboring slough; nor, so far as I could ascertain, did they again approach the nests during my stay of three days. Is it not then possible that they are more or less dependent for the hatching of their eggs upon the artificial heat induced by the decaying vegetable substances of which the nests are wholly composed?"

Surely the birds *have* enemies in the vicinity, especially in the Hawks and Gulls that would quickly notice the eggs if uncovered. In the grass, not fifty feet from the nests I have described, a Marsh Hawk (*Circus hudsonius*) was found sitting upon five eggs. I also noticed several Hawks in the vicinity, and several Ring-billed Gulls (*Larus delawarensis*) were skimming over and about the lake. Further, I do not think it "possible" to create artificial heat from the slow decay of the vegetable matter composing the nests, resting as they do in and upon the ice-cold water, the eggs often touching the same. Before wading out to the nests I removed my boots and socks, and during the short time I was in the water my feet and limbs were painfully cold. Colorado lies farther south, and the elevation is not so great, but the waters are made largely from the melting snows, and must be cold so early in the season. I am inclined to think rather that at the time the birds were first discovered the males, and hen birds not mated or laying, were near their nesting grounds, and that those on their nests, after covering their eggs, dove off, came up in the flock and swam away with it, returning one by one when the cause for alarm was removed. By swimming under water, with only the bill out at times to breathe (a well known habit of the birds), they could easily reach their nests unnoticed. Or it may be, as Mr. Henshaw only found three eggs in a nest—four to five being a full set—that none of the birds were sitting. In this case there would be no necessity for a hurried return, as absence during the day would do no harm.

BIRDS OF THE LOWER URUGUAY.

BY WALTER B. BARROWS.

(*Continued from Bull. Nutt. Orn. Club, Vol. VIII, p. 212.*)

94. **Drymornis bridgesi** *Eyton*. CARPINTERO (CARPENTER, WOODPEÇKER,—from its similarity in some respects to these birds).—Resident and abundant at Concepcion, where it undoubtedly breeds, though I was not fortunate enough to find the nest.

The birds are somewhat gregarious, being oftenest seen in small parties of six to ten. They sometimes cling against the bark of a tree in the manner of Woodpeckers, but also spend much of their time on the ground. Though extremely similar in general structure to the following species, I think they use the curved bill (3 or 4 inches in length) much oftener for probing in the ground than for searching the bark of trees, as many of those shot had the base of the bill and the frontal feathers plastered with mud. In the stomach of the first one killed I found the silken sac, three-fourths of an inch in diameter, of the eggs of a large spider, which makes holes ten or twelve inches deep in the hard soil everywhere. In January and February the birds were moulting.

95. **Lepidocolaptes atripes** *Burm.*—A common resident, and doubtless breeds in all the larger tracts of forest. Although nearly ten inches in length, it has the general form and habits of a *Certhia*, hitching restlessly up old tree trunks, and having finished one, beginning at the foot of another, probing everywhere for insects, but never alighting on the ground. Of its nesting habits I know nothing, but was told by natives that both this and the preceding species nested in holes in trees.

96. **Thamnophilus cærulescens** *Vieill.*—Much less common than the following species yet quite frequently seen, especially in winter. I do not think the birds are really any more abundant in cold weather, but as many of the shrubs are then leafless, the thickets are more easily examined and so the birds are more often seen. Both species prefer the densest clumps and most tangled masses of swampy shrubs and vines, where each bird shot was paid for with many a scratch and tear, and often only recovered after a free use of the bush-knife.

A nest taken November 24 was almost precisely like that of our Red-eyed Vireo (*V. olivaceus*), being pensile in the fork of a horizontal spray, only four feet from the ground. It contained three fresh eggs, white, with spots and dashes of light brown. This has been considered one of the rare species of the province, and I found no specimen of it in the museum at Buenos Aires.

97. **Thamnophilus argentinus** *Cab.*—Abundant, summer and winter, and in the same localities as the preceding. The nests are very similar, but that of the present species is rather larger, as are also the eggs, which in other respects are quite similar. The first nest was found February 8, 1880, that is in autumn, and when only one or two other birds were nesting at all. I think this is unusual, however, since no more nests were found until the following spring, when, during November, they were not uncommon. On November 16, I saw young following the parent, and within half an hour found a nest with three fresh eggs, the usual number.

98. **Heliomaster furcifer** (*Shaw*). PICAFLOR MAYOR (LARGER HUMMINGBIRD).— Early in September, at Concep-

cion, when the orange trees are just whitening with blossoms, these magnificent Hummingbirds arrive from the north, and may occasionally be seen about the orange trees in any garden, as well as about blossoming trees elsewhere. The males seemed for some reason to be much less abundant than the females, hardly more than a dozen being seen in an entire season. They probably nest in November and December, and leave for the north again in February or March. A nearly finished nest found November 17, was very similar to that of our own Ruby-throat (*Trochilus colubris*) but larger, and was built in the compound fork of a large limb at a height of over 25 feet from the ground. It was deserted soon after, perhaps as a result of my examination. Ten days later another nest was found saddled on the topmost horizontal limb of a dead and moss-grown stub, only about seven feet from the ground, and exposed to the full force of the sun. This nest contained two eggs nearly ready to hatch. Both nests were beautifully covered with lichens, and the last was lined with the finest of vegetable down. The female made several angry rushes at me before the nest was touched, but as soon as she saw that it was discovered became so shy that it was difficult to secure her. The male was not seen at all. I once saw a bird of this species attack and put to rout a wild Dove which passed near it while feeding, and though the Dove made every effort to escape, the Hummer not only kept up with it easily but darted above and below it as well, and finally both went out of sight in the distance together.

99. **Hylocharis sapphirina** (*Gm.*).— A single specimen of this pretty little Hummer was brought me October 13, 1880, having just been caught in a garden at Concepcion. I did not meet with a second specimen, but from its similarity to the young of the following species it may often have passed unnoticed. At this time I had no fine shot, and was compelled to depend on a blowgun for the taking of Hummingbirds.

100. **Chlorostilbon splendidus** (*Vieill.*). PICAFLOR (literally FLOWER-PECKER).— Very abundant at Concepcion in summer, arriving from the north early in September and departing again in April. Though found everywhere among flowers, they are particularly partial to open ground, flowery fields, gardens, etc., and in October it was not uncommon to have six or eight in sight at once.

On October 26, 1879, while watching a number of them as they passed from flower to flower in a field fairly purple with blossoms, I was startled by the peculiar hiss of a falling bird, and a Sparrow Hawk (*Falco sparverius*), swept the grass a few yards in front of me, having either struck at one of the Hummers or, more probably, at a mouse among the grass. From the velocity of his plunge he shot upward to a height of 20 or 30 feet, empty handed, but soon had his hands full, as three male Hummers devoted themselves to him most unreservedly, and continued their attentions — as was evident from the Hawk's motions — long after their own tiny forms were lost to my sight.

Most of the birds have nests by the middle of November, but, from their being placed very near the ground, many are doubtless destroyed by various enemies, so that nests with eggs are not uncommon late in December.

I feel quite sure, however, that but one brood is reared each season. Nearly every garden has its nest, and often more than one, almost invariably built at the tip of one of the lowest, drooping twigs of an orange tree, rarely more than three or four feet from the ground. When built away from human habitations I found at least three-fourths of the nests under a kind of bushy tree known as the *Coronilla*. I say *under* this tree because the lower branches usually start out from the main stem a foot or two above the ground, while their tips sweep the earth, thus leaving a dome-shaped open space beneath, where there is always a shadowy half-light, and where on some slender, dependent twig the nest is commonly placed. Among a score of nests found in such situations only two or three were more than two feet from the ground, and many were within twelve or fifteen inches of it. The nests are exceedingly various in composition but always consist largely of soft cottony substances, with a lining of fine vegetable down, or fur from various small mammals. The outside is made to "harmonize with its environment," sometimes by leaving it unornamented, but oftener by the addition of moss, leaves, cobwebs, papery bark, etc., all attached very loosely and giving a most picturesque effect.

The eggs in most cases were two in number, rarely of the same size, and not always deposited on successive days. A set before me measure .51 in. by .33 in., and .48 in. by .32 in. I usually found the female on the nest, or close by, and do not remember ever to have seen a male betray an interest in any particular nest. On removing the eggs (or even one of them) a nest was promptly deserted, but in several cases where the twig was cut off with the nest a new one was soon built on the same tree.

101. **Podager nacunda** (*Vieill.*). DORMILON (SLEEPY-HEAD).— An abundant summer resident, arriving and departing at about the same time as the preceding.

It is strictly crepuscular or nocturnal, never voluntarily taking wing by daylight. In November it lays a pair of spotted eggs in a hollow scooped in the soil of the open plain. These in shape and markings resemble eggs of the Nighthawk (*Chordiles virginianus*) somewhat, but are of course much larger and have a distinct reddish tinge. We found the birds not uncommon near Bahia Blanca, February 17, 1881, but elsewhere on the Pampas we did not observe them.

102. **Chordiles virginianus** *Sw.*— A single specimen was taken at Concepcion January 28, 1880, and eleven months later (Dec. 20, 1880) another was taken on almost the same spot as the first. The first one when started from the ground in a recent clearing tried to alight on the tip of a broken sapling near by and was shot in the act.

103. **Antrostomus parvulus** (*Gould*).— Not uncommon in summer and doubtless breeds. At dusk I frequently saw it about the margins of low woods and thickets where it made only short flights, soon settling on the ground.

104. **Hydropsalis furcifera** (*Vieill.*). TIJERITA-DORMILON (SCISSOR-TAILED SLEEPY-HEAD).— Rather common summer resident, arriving in August and leaving in May. While hunting capybaras and armadillos by moonlight I frequently had good opportunities for watching its movements. Its flight is nearly as irregular and as noiseless as that of a butterfly, while its beautiful tail is opened and shut in the same manner as with the Scissor-tailed Flycatcher. Alighting frequently on the ground or on stones or roots, it keeps up a continual but very soft clucking, which is the only note uttered. It was most often seen in open grassy or sandy spots in the woods, especially along the margins of the streams. By day it sits close on the ground, and if disturbed only flies a few yards, though it evidently sees well. Of its nesting habits and eggs I am ignorant.

105. ? **Hemiprocne zonaris** (*Shaw*). SWIFT.— October 5,

1879, a pair of Swifts was seen at Concepcion having the general appearance and motions of *Chætura pelagica*. No specimen was secured, and no others were afterward seen.

106. **Campephilus boiæi** (*Wagl.*).— A part of the last week in April, 1880, was spent in a considerable tract of forest bordering a stream known as the "Arroyo Gualeguaychú" at a point about twenty miles west of Concepcion. The wood borders the stream to a depth of a mile or more on each side and stretches up and down stream indefinitely. It had suffered comparatively little from the axe of the charcoal burner, and many birds, not elsewhere seen, were met with here. Among these was the present beautiful Woodpecker, of which, however, only a single pair was observed, and the male alone taken. It is said to occur sparingly in all the large forests.

107. **Picus mixtus** *Bodd.* — Resident; not common; seen only about a dozen times, usually in low and swampy growths, where its tapping was the only sound heard from it. It was always solitary.

108. **Picus cactorum** *Lafr. et d'Orb.* CARPINTERITO (LITTLE CARPENTER).—Resident. More commonly met with than the preceding, but abundant only on the Gualeguaychú at the place mentioned above.

109. **Chrysoptilus cristatus** (*Vieill.*).—Resident. Abundant in woods everywhere, and conspicuous for its activity, bright colors and large size. It is strictly arboreal, but hops about among twigs and small branches more freely than most Woodpeckers of my acquaintance. September 29, two pairs of these birds were seen near holes in inaccessible dead stubs overhanging a stream. The specific name implies a crest, which the bird has not.

110. **Leuconerpes candidus** (*Otto*). CARPINTERO BLANCO (WHITE CARPENTER).—Sparingly resident and doubtless breeds. Its snow-white body, black wings, and noisy habits, prevent its being often overlooked, but it is nevertheless seldom seen about Concepcion, and then only in the heavy timber.

111. **Colaptes agricola** *Malh.* CARPINTERO (CARPENTER).—Abundant and breeding at all points visited. At Concepcion, where it is resident, it is by far the commonest Woodpecker. The ordinary note very much resembles the reiterated alarm note of the Greater Yellow-legs (*Totanus melanoleucus*), but so loud as to be almost painful when close at hand, and easily heard a

mile or more away. They spend much time on the ground, and I often found the bills of those shot quite muddy. They are very tough and hard to kill, and a wounded one shows about as many sharp points as a Hawk. A nest found near Concepcion, November 6, 1880, was in the hollow trunk of a tree, the entrance being through an enlarged crack at a height of some three feet from the ground. The five white eggs were laid on the rubbish at the bottom of the cavity—perhaps a foot above the ground. In the treeless region about the Sierra de la Ventana we saw this bird about holes in the banks of the streams, where it doubtless had nests.

112. **Ceryle torquata** (*Linn.*). MARTIN PESCADOR (KINGFISHER).—Only observed half a dozen times, always in summer. A winged one which fell in the water and was carelessly picked up as the boat passed, closed his powerful bill on my fingers and allowed his lower jaw to be broken before he released his hold.

113. **Ceryle amazona** (*Lath.*).—Not uncommon along the main river throughout the year, and sometimes ascends the smaller streams a short distance. Much more easily approached than the last species, it is not so familiar as the following, with which it fraternizes commonly—the two being often seen fishing side by side.

114. **Ceryle americana** (*Gm.*).—Resident through the year at Concepcion, but especially abundant in winter when it haunts the main river, the island shores, and all the streams, big and little. It is not in the least shy, and one once perched in some willows directly over my boat and not ten feet away, while he swallowed a tiny fish he had just captured; after which he twittered such a hearty little song that I really felt as if his proper place must be among the *Oscines* in spite of all anatomical defects. On the Pampas we found this a rather common bird on the small streams, and its presence on some streams whose waters are entirely absorbed by the desert before they can reach either sea or lake, first called my attention to the presence, even in these streams, of numbers of a small fish which is found in many of the pools as well all over the Pampas. Although both this and the preceding species must nest about Concepcion I did not succeed in learning anything of the nest or eggs.

115. **Guira piririgua** (*Vieill.*). PILINCHO or PEDINCHO (meaning not known).—An abundant resident at Concepcion,

Buenos Aires, and somewhat further south. Its proper home is much further northward but in the last few decades, according to Hudson, it has gradually descended along the great river valleys and spread over the adjacent plains wherever there are trees. At Concepcion these long-tailed and long-legged Cuckoos are usually seen in flocks, which rise with harsh screams when disturbed, and flap slowly off with frequent intervals of sailing.

On the ground they run with much ease and it is a very pretty sight to see a flock of them glide down a few at a time from a hedge to the ground, each one closing his wings as he nears it and, without checking himself at all in the air, gliding forward on his feet so smoothly and swiftly that it is almost impossible to tell when he ceased flying and began running. At such a time many of them carry the long tail almost vertically over the back. They are said to nest in communities, but they certainly sometimes nest singly, though the natives assured me that even then two or more females dropped their eggs in the same nest.

The eggs themselves are very peculiar. The ground color is a clear bluish-green, over which is a net-work of dots, lines and blotches in pure white, the material of which is chalky and not difficult to wash off when the eggs are fresh. Sometimes the ground-color is almost obscured by these white markings, but when—as is often the case—the blue and white are in about equal proportions the eggs are among the prettiest I have ever seen.

December 6, 1879, I took a perfect egg from a female which I shot, but I saw no other eggs until the following year when, during December, about a dozen specimens were brought to me—all taken from "large nests made of sticks up in trees."

116. **Diplopterus galeritus** *Burm.* CRISPIN (imitation of note?).—Not noticed at all the first season, but not rare late in December, 1880. Several were taken in open, bushy places and many others were heard. It is a plain but attractive Cuckoo, with a few-feathered crest and long, soft, flowing upper tail-coverts.

The note is very clear and penetrating, sounding much like the word *cris-pin*, slowly uttered and with the accent on the last syllable. The birds are very shy and I followed one for nearly an hour before I saw it at all, and nearly twice as long before any chance for a shot was offered. There is some peculiarity in the note which frequently makes it impossible to tell whether the bird is in front of or behind you—even when the note itself is distinctly heard. I know nothing of nest or eggs.

117. **Coccyzus pumilus** *Strickl.*—This small Cuckoo with red eyelids was twice taken at Concepcion, once on December 11, and again December 30.

118. **Coccyzus melanocoryphus** *Vieill.* CUCLILLO (CUCKOO).—Abundant from early in November until late in February, after which it was not observed. The first nest was found February 16, 1880, and contained three eggs. This must have been a second nest, as others were found the next season during November. In nest, eggs, and general habits this bird seemed to me precisely like *Coccyzus americanus.*

119. **Coccyzus cinereus** *Vieill.*—A single specimen of this species was taken January 22, 1880. It was not again noticed.

120. **Conurus patagonus** (*Vieill.*). LORO (PARROT).—Only met with near Bahia Blanca, February 14, 1881, and again at Carhué the first week in April. We found it in noisy flocks of twenty or thirty individuals feeding mostly on the ground.

121. **Bolborhynchus monachus** (*Bodd.*). LORITO (PAROQUET).—An abundant and familiar bird in the neighborhood of Concepcion through the entire year. It is commonly seen in flocks of twenty and upwards, visiting grain fields, gardens, etc., and sometimes, if I was correctly informed, it has appeared in flocks of tens of thousands, completely stripping the grain fields. They nest in communities, many pairs uniting in the building of a large common nest or mass of nests. I only saw these nests on two occasions and had no opportunity of examining their structure. They were placed on high trees, and appeared from below to be simply irregular masses, six or eight feet in diameter, formed of small sticks and twigs. Where the nests are abundant the natives destroy the young by hundreds, and the "squabs" when nearly grown are said to be very fine eating. The young are easily tamed and may be taught to articulate a few simple words.

Several other birds of this family undoubtedly occur in small numbers, and with more or less regularity at Concepcion. I heard much about certain "Loros barranqueros" (Bank Parrots), which were said to be common in some localities near the town a few years before, but had been made to desert their breeding places by the continued robbing of their nests, the young, it is said, making very good talkers.

November 6, 1880, I found a nest of three or four very young

Parrots or Paroquets in a sort of pocket in a sand bank some ten miles south of the town. Although I waited patiently for some time in hopes of securing the parents, I saw nothing of them, and on returning a few days later the nest was empty.

The last week in May, 1880, about a hundred Paroquets flew over the town one morning, and although I noticed nothing unusual in their appearance I was told during the day, by two different persons, that these belonged to still another species, well known, but of late years not so common as formerly.

122. **Aluco flammeus** (*Linn.*). LECHUZON (BIG OWL).—Resident; abundant; breeds in lofts of old buildings, etc. A pair had a nest in the belfry of the "Cathedral," and another pair in an old tower formerly used as a mill. Their harsh screeches rang through the deserted corridors of the college every night, that being one of their favorite hunting grounds for bats.

123. **Asio accipitrinus** (*Pall.*). LECHUZON (apparently not distinguished from the preceding by the natives).—Not uncommon in winter, sitting among the long grass during most of the day but beginning to hunt at sunset, or sometimes earlier. I started four or five in a field back of a farm house, May 21, 1880, and on June 18, saw half a dozen or more just before sunset, sweeping about like Harriers over the fields near town. I saw none after August 18.

124. **Bubo virginianus** (*Gm.*). BUHO (OWL) and ÑAKOO-KOO-TOO (the Indian name, referring, of course, to the hoot of the Owl).—Said to be not uncommon in the deeper swamps along the river as well as in the drier forests further back.

I met with it only once,—at the camp on the Arroyo de Gualeguaychú. Here a pair or two were within hearing every night and I dropped one just at dusk, but it unfortunately fell on the other side of the stream in a jungle which I was not prepared to search by moonlight. Mounted specimens in the museum at Buenos Aires, labelled *Bubo crassirostris* were undoubtedly the same thing.

125. **Scops brasilianus** (*Gm.*). CABURÉ. (Name unexplained; it is also applied to a much smaller Owl, probably *Glaucidium*, which I did not see.)—A common resident along all the wooded water-courses, and of course breeds, but I did not find the nest. It has a soft, tremulous cry not unlike that of *asio*, and, as in that species, there are two varieties of color, red and gray.

126. **Speotyto cunicularia** (*Mol.*). LECHUZA (OWL).— Extremely abundant at Concepcion, living with the viscachas (*Lagostomus trichodactylus*), though usually, I think, not in the same holes, but in deserted burrows. At night they were quite common in the town, and I have often seen them perched along the roof-tops and parapets in the gray of early morning. The fixed stare with which they follow a person's motions, in broad day, is illustrated by the following concise directions commonly given to young foreigners who come out to make money at farming. "Walk slowly around the bird until you see his head twist off; then pick him up."

127. **Circus cinereus** *Vieill.* GAVILAN (HAWK).—Only met with on the Pampas, and especially in the neighborhood of the Sierras and the streams to which they give rise. It was not uncommon near Bahia Blanca in February, and was easily distinguished from the following species, both by its lighter color and smaller size. In habits, also, there was quite a difference, the present species being rarely seen at any considerable distance from water, and sitting for hours on the sandy or muddy bank of a stream, whence it would rise only when closely approached. We saw it frequently at the Ventana, on the Piqué and at Carhué.

128. **Circus maculosus** *Vieill.* GAVILAN (HAWK).—We met with this Hawk quite frequently on the Pampas throughout the whole of January, February, and March. It does not appear at Concepcion in any numbers until cool weather begins in March.

During April and May it was very abundant there, scores of them being frequently seen during a day's shooting. It was very familiar, and frequently flew around me within a few yards as if out of simple curiosity. In habits it did not seem to differ very much from our own Marsh Harrier (*Circus cyaneus* var. *hudsonius*). Of its breeding habits, however, I learned nothing.

129. **Asturina pucherani** *Scl. et Salv.* ALCON (FALCON). —Rather common in winter; almost always found close to the shore of some stream. During April, May and June, it was a rare thing to spend an hour in a boat anywhere and not see one or two of these Hawks. It feeds largely, if not exclusively, on fish, nearly every specimen opened having their remains (and nothing else) in its stomach.

(*To be continued.*)

BIRD NOTES FROM LONG ISLAND, N. Y.

BY WILLIAM DUTCHER.

1. **Passerculus princeps.** *Maynard.* IPSWICH SPARROW.—While collecting, January 1, 1883, on Jones Beach* ; I was fortunate enough to secure four specimens of this Sparrow. The first one seen was shot while running through the short beach-grass, between two sand-dunes. The others were flushed in similar localities and shot while flying. Another was seen but escaped. February 14, 1883, the gunner who usually accompanies me on my collecting trips, shot on the same beach two more specimens, which he sent me. He wrote that he saw one other, which he could not secure. February 22, 1883, I again visited this beach and saw two more specimens, both of which I secured. The following measurements were carefully taken while the birds were in the flesh :

Sex.	*Extent.*	*Length.*	*Wing.*
♂	6.12	10.00	3.00
?	6.25	10.00	3.06
?	6.25	9.50	2.88
♂	6.25	9.75	3.00
♂	6.50	10.25	3.06
♂	6.00	9.50	2.88
?	6.00	9.75	3.00
♂	6.00	9.50	2.88
Average	6.17	9.78	2.97

2. **Poœcetes gramineus** (*Gm.*) *Baird.* GRASS FINCH.—One was taken February 22, 1883, on Jones Beach. It was not in company with the Ipswich Sparrows, taken the same day and in the same locality. Noted as being an early date.

3. **Melospiza lincolni** (*Aud.*) *Baird.* LINCOLN'S FINCH.—Three individuals of this species were killed by striking Fire Island Light the night of May 9, 1882, and were sent me. The testes of two dissected were well developed. I have never taken

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* Jones Beach is part of the Great South Beach of Long Island, distant about 28 miles east from New York City.

this species on Long Island while collecting. It was not included by Mr. Giraud in his list published in 1844,* but was by Mr. G. N. Lawrence in his catalogue published in 1866.†

4. **Herodias alba egretta** (*Gmel.*) *Ridgw.* AMERICAN EGRET.—August 3, 1882, Nelson Verity, a gunner, shot on the marshes at South Oyster Bay, and sent me, a male of this species. He tells me that they usually arrive about August 1, and remain until the latter part of September. In the course of the season he sees, perhaps, 25. During the summer of 1882 a few were shot, a lad killing two in one day. Verity also tells me that they are invariably found in company with the Great Blue Heron, *Ardea herodias*.

5. **Garzetta candidissima** (*Gmel.*) *Bp.* SNOWY HERON.—July 11, 1881, while on the marshes at South Oyster Bay, I saw seven individuals of this species, but they were so wild I could not get a shot at them. On the following day I saw but one. July 17, Nelson Verity, a gunner, killed three, one of which, a female, he sent to me. Verity afterwards informed me that his father, who is also a gunner, killed seven on the same marshes in one day, later in the summer of 1882. About July 1, 1883, Verity saw a flock of five near Fire Island, and on the 3d of July he shot one on the South Oyster Bay marshes.

6. **Macrorhamphus griseus scolopaceus** (*Say*) *Coues.* RED-BELLIED SNIPE.—A female of this species was shot September 19, 1882, by a sportsman stopping at "Lane's" on Shinnecock Bay, who kindly presented it to me. September 26, 1883, I secured another in the same locality. The gunners about Shinnecock Bay claim that they can distinguish the note of this bird from that of its congener, *Macrorhamphus griseus*. The measurements of these two specimens are as follows:

Length.	*Extent.*	*Wing.*	*Gape.*
11.87	19.00	6.00	2.75
11.00	18.50	5.75	2.50

7. **Pelidna subarquata** (*Guld.*) *Cuv.* CURLEW SANDPIPER.—A specimen of this species was shot by Charles A. Lane at Shinnecock Bay and sent to me. He wrote, "The Snipe

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* The Birds of Long Island. By J. P. Giraud, Jr. 1844.

† Catalogue of Birds observed on New York, Long and Staten Islands, and the adjacent parts of New Jersey. By Geo. N. Lawrence. 1866.

I send you was shot May 24, 1883; it was alone. Neither my father or either of my brothers ever saw one before." I may add, that Capt. Lane, the father, has been a professional gunner, on the south side of Long Island, for over forty years. His three sons are also professional gunners.

8. **Phalaropus fulicarius** (*Linn.*) *Bp.* RED PHALAROPE.—May 19, 1883, I received from Geo. A. Lane, of Shinnecock Bay, a Red Phalarope that had evidently been shot some three or four days. He wrote me, "The bird was alone. I never saw but one before."

9. **Lobipes hyperboreus** (*Linn.*) *Cuv.* NORTHERN PHALAROPE.—May 24, 1883, Geo. A. Lane, sent me some specimens of this Phalarope. He wrote, "There have been more Phalaropes this spring than I ever saw before. My brothers killed nearly 50 and sent them to market with other Snipe." Subsequently, while at South Oyster Bay, I questioned some of the gunners regarding the flight of Northern Phalaropes this spring, and ascertained that on the 23d and 24th of May there was a large flight of them. Three gunners said they shot about 20, and then desisted because they did not want any more. They remarked "that they were very gentle, almost always alighting among the decoys, swimming lightly and gracefully about." The very unusual number of these birds found on Long Island this spring may possibly be accounted for as follows: During the northward migration they were driven out of their usual course by head winds. The facts are these: On the 18th of May it commenced to blow from the northeast and continued blowing from that quarter to south-east steadily until the 21st, when it culminated in an easterly storm which lasted about twenty-four hours. On the 23d and 24th, the Phalaropes were seen, but disappeared as suddenly as they came. They are more commonly seen in the fall, but then only occasionally.

10. **Steganopus wilsoni** (*Sab.*) *Coues.* WILSON'S PHALAROPE.—Mr. Charles E. Perkins, of Hartford, Conn., wrote me: "While at Shinnecock Bay, L. I., August 20, 1883, I shot a bird which none of the gunners recognized, and I ordered it sent to you. I should like to know what it is." It proved to be a Wilson's Phalarope. Subsequently one of the gunners informed me that a similar bird was shot a few days later by another sportsman, but he could not secure it for me.

11. **Chen hyperboreus** (*Pall.*) *Boie.* SNOW GOOSE.— October 8, 1881, a young bird was shot at Shinnecock Bay by C. A. Lane, which he sent me. In answer to a letter requesting information about the circumstance, Capt. Lane wrote: "The bird was alone. I have never shot any, and have seen only one prior to the one sent you, nor have either of my sons shot or seen any before." Nelson Verity, gunner, of South Oyster Bay considers them very rare, but remembers having seen a few. Carman Cornelius, gunner, of the same place, does not recollect having seen one on Long Island for twenty years. He is familiar with this Goose, having seen them in numbers in North Carolina, where he has been employed for many winters by one of the clubs.

12. **Sterna anglica** *Montag.* GULL-BILLED TERN.— I became the fortunate possessor of a male and female of this species July 4, 1882. While on an extensive mud flat, on the inside of the beach, at South Oyster Bay, Nelson Verity called my attention to the cry of a pair of Terns that were flying past. He winged one so that it fell some distance off. Its mate would not desert it, so was easily secured. On examining them Verity said they were the first he had ever seen. Giraud says,* "In this vicinity it is rare; during my excursions I have never met with it."

13. **Sterna caspia** *Pall.* CASPIAN TERN.—During a collecting trip to Shinnecock Bay, in September, 1882, I saw six individuals of this species, three of which I secured. None of the professional gunners about the bay knew what they were, and but few of them had ever seen any before. They are birds that would be likely to attract attention, from their large size, large, bright coral-red bills, and peculiar cry. The first specimen procured, September 7, was one of a pair, an adult male and a young bird, the former of which came near enough for me to break a wing and thus secure it. The next pair were seen and taken on the 13th. They, too, were an adult and young. Before they were seen, the harsh rolling cry of the adult was heard, and also the sharp whistle of the young bird. The old bird came near enough to shoot, and my gunner, Geo. A. Lane, called back the young bird by imitating the whistle of the Esquimaux Curlew (*Numenius borealis*) which was a perfect

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* The Birds of Long Island, pp. 353, 354.

reproduction of his own cry. The third pair I saw on a sand-bar at Shinnecock Inlet. They were in company with some American Herring Gulls. They also were adult and young.

14. **Alle nigricans** *Link.* SEA DOVE; DOVEKIE.—December 7, 1882, Mr. C. A. Blydenburgh, first assistant keeper of Fire Island Light, sent me a female of this species, which he found dead on the beach. Ten days later he sent me another, and wrote as follows: "I found one Sea Dove which I will send you with this. The men at the Life Saving Station had three Sea Doves before I got one. One of the men from the next station east told me they found one this winter. That makes six picked up along here." In answer to an inquiry, Mr. L. S. Foster, of New York City, wrote me as follows: "My Long Island information concerning 752, *Alle nigricans*, is as follows: The specimen in my cabinet 'was caught on my patrol, in my midnight watch, the night of the 23d of December, 1881. June Bishop, Life Saving Station, off Centre Moriches, L. I.' One was found dead in the meshes of a net near the same locality, November, 1882. One was brought on the cars of the Long Island railroad at Bayport by a gunner, November, 1882, 'having been shot in a pool.'"

DENDROCOPOS PURUS, A NEW SPECIES OF WOODPECKER FROM KAMTSCHATKA.

BY LEONHARD STEJNEGER.

Dendrocopos purus, n. sp.

DIAGN: Similis *D. majori* (L.) a quo differt: pectore et abdomine superiore purissime albo, rectricibus lateralibus albis fere immaculatis et pogonio externo remigum primarium longissimarum apice albonotato.

HAB: Kamtschatka; accid. Insula Beringii.

This species is closely related to *D. major* (L.) but differs in having the breast and upper abdomen very pure white, the white of the lateral rectrices without or almost without dark markings, and possessing a white spot on the outer web of the longest primaries near the tip.

The types of this form, two males and one female (U. S. Nat. Mus. No. 92701. 92702 and 92703), were collected by me on Bering Island, off the coast of Kamtschatka, where this bird is rather common and whence it accidentally visits the said island. It is the *Picus major* of Kittlitz (Denkwürd. Reise, I, p. 321).

The greater purity of the white of the lower surface and the greater extent of the same color on the lateral tail-feathers distinguishes this species easily from its allies. In the description of *T. cissa* Pallas expressly says that the lateral rectrices are white "nigro transversim variegatae" and "pectore sordescente." Specimens of *D. major* from Central Europe, the only ones at present accessible to me, have the lateral tail feathers strongly barred, and lack the white spot near the tips of the outer web of the longest primaries. These markings are, however, also found in *Dryocopos japonicus* (Seeb.), but the Japanese bird has a very dark lower surface, and transverse markings in all the lateral tail-feathers; besides, the Kamtschatkan form has a stouter and longer bill.

Dryocopos purus is especially conspicuous for the uniform white color on the lateral tail-feathers. In two of the specimens are seen some traces of transverse bars on one or both of the two external feathers, but no traces of similar bars or spots are found on the two following pairs.

There is a possibility that the different forms of *D. major* may be found to intergrate so as to become only races. *If that can be proved*, the names would stand as *Dryocopos major*, *D. major cissa* (Pall.), *D. major japonicus* (Seeb.) and *D. major purus*. But until this question is satisfactorily settled the above binomial appellation will stand.

U. S. National Museum,
Washington, D. C.

THE COUES LEXICON OF NORTH AMERICAN BIRDS.

BY AUGUSTUS C. MERRIAM.

THE "Coues Check List and Lexicon of N. A. Birds" (1882) deserves in one of its features some further consideration than appears yet to have been given it. This feature is its philological treatment of the nomenclature of ornithology. Dr. Coues has here entered upon a field which has long demanded attention. Scientific nomenclature is becoming so vast and so important, and the haphazard way in which much of it has been coined and applied is so provoking, that it imperatively commands from its votaries intelligent and scientific review. Living vernaculars usually grow with numerous inconsistencies and incongruities, which must be accepted as they stand by the student of language; but in a vocabulary which is constructed by scientific men for scientific uses, there ought to be scientific precision and analogical correctness, at least in the formation of the words. Since it is agreed that the Greek and Latin languages shall be the mine from which this nomenclature is to be drawn, the several structures should be built strictly upon the analogies of those languages. In order to secure this end, the framers of words must be possessed of a competent knowledge of those languages, to give them secure and accurate results. Not only is this true of word-framers, but in a less though essential degree of word-users, — in short, of all the votaries of modern science, of which ornithologists have become an important part. If all ornithologists cannot become proficient Greek and Latin scholars, they can and ought to acquire such an acquaintance with their terms that they may be able to handle them with ease and assured exactitude; for there is scarcely an ornithologist who has not already been confronted by the problem of making known his discoveries in print, or hopes to do so at no distant day. That is the moment beyond all others when his desire mounts to a positive passion to know how to express his thoughts in a manner worthy of himself, of his discovery, and of the beautiful science which he loves. Hence, if he has never made the matter a study before, he will wish to do so then, and desire just such a production as Dr. Coues has set out to place at his disposal. He will wish to know not only what the terms are, but why they are so and so, or else he possesses no true scientific spirit, none of that divine seeking which longs to be right and know why it is right — that divine seeking which absorbs and masters every true devotee of nature and its countless marvels. How necessary is it then that he should be rightly taught, that the information laid before him should be as accurate, and conceived in as scientific a spirit, as the knowledge of the day will permit.

When we turn to the philological portion of Dr. Coues's work and examine it with these principles in view, we find it open to criticism in numerous particulars. The plan is excellent, and the great majority of the derivations are correct; but the treatment of some of the most essential points which should form the initial training of the word-constructor and word-expounder is erroneous and misleading. To show this with as much clearness and detail as a limited space will permit is the purpose of this article.

Since a very large part of the ornithological vocabulary is composed of compound words, it is indispensably necessary that the student and teacher should have a clear idea of the processes which the genius of each of the two languages employed in welding words together. Of this the work before us often betrays but vague and indefinite notions. For instance, in No. 56 we read, "Auriparus. Lat. *aureus*, golden, from *aurum*, gold; and *parus*, a titmouse. . . . A more strict method of compounding *aure-us* with *parus* would give *aureiparus;* but it may be taken direct from *aurum*, making *auriparus* admissible; as we should say 'gold-tit,' like 'bush-tit,' 'coal-tit.'" But it is a mistake at the outset to say that *auriparus* is derived from *aureus;* it has nothing to do with this adjective, but is made direct from the noun *aurum*. Some one hereafter, relying on Dr. Coues's statement, might propose to write *aureiparus*, thinking that to be the only strictly correct form. In like manner, in No. 84, we have a similar treatment of the corresponding Greek for gold:—"Chrysolaema. Gr. χρύσεος, golden, from χρυσός, gold." Again, this would make *chryseolaema*, not *chrysolaema*, which is made from χρυσός immediately. The error here seems to arise from the supposition that the first element of the compound ought to be an attributive form—adjective or genitive—in order to obtain the adjective meaning. But when a noun precedes a noun in composition it regularly assumes the sense of an attributive by the law of composition, as Dr. Coues himself shows in his "bush-tit," etc. An adjective or genitive form is therefore superfluous, a principle which will also apply to the correction of *Sayornis* (377) to *Sayiornis*. The word is not improved by the change.

On the other hand, we have a general principle for the orthography of a certain class of words evolved somewhat in this way (42, 311):— In Latin words, the terminal vowel of the first component before a consonant should be *i*, unless the second component is a participial form; then it should be *o*, because it is the ablative, and we are to say *albocaudatus*, *albolarvatus*, *atrocristatus*, *fuscocaudata*, *rufovirgata*; but *flaviviridis*, etc.

A question of this kind can be properly settled only by examining the usage of the Latin language in this particular. Taking

Harpers' 'Latin Dictionary' (1879) as fair authority for the form of all words of the classic period, and in some cases embracing authors as late as 600 and 700 A. D., we find the following compounds in which the *o* is used:— *Unomammia*, *merobibus* and *sociofraudus* in Plautus, *viocurus* in Varro, *primopilus* (for the usual *primipilus*), *sacrosanctus* in Cicero, *Ahenobarbus* in Livy, *Forojuliensis* in Tacitus, *Forocorneliensis* and *primogenitus* (?) in Pliny, *rumpotinus* and *rumpotinetum* in Columella. These belong to good writers; the remainder occur from 150 A. D. to 650. They are, *albogalerus*, *hamotrahones*, *primogenitalis*, *albogilvus*, *tunicopallium*, *primocreatus*, *limocinctus*, *Murocincta* (?), *mulomedicina*, *mulomedicus*, *mulocisarius*, *obliquoloquus*, *tertiocerius*, *quartocerius*, *Vergiliocento*, *homocidalis*, *oleomella*, *ceroferarius*, *martiobarbulus*. The most thorough examination would not increase this list materially, among genuine Latin words, and the smallness of the number as compared with the thousands of words which employ *i* instead of *o*, shows how foreign to the real genius of the language the *o* is. In hybrid compounds there is a tendency to the use of *o*, whether the first or second component is Greek, and of course in genuine Greek words *o* is the prevailing letter, so that, if not a survival, it may be through the influence of Greek literature that the *o* crept into this very small corner of the Latin field. At all events, an examination of the words given above shows that the idea of an ablative is quite inadmissible in the large majority of them, and consequently that the Romans had no consciousness of it in the others; besides, if they had, they would have written *aurofluus*, "flowing with gold," instead of *aurifluus*, and countless others of similar import and form. Furthermore, if the *o* represents the termination of the ablative case, it should be long; on the contrary, it is short, according to Kühner (and Dr. Coues virtually abandons his position by marking his short), in the only places where its quantity can be determined; and consequently, the best German authorities regard the letter as *the short final stem-vowel of the second declension*, to which the second component is directly added, as so frequently in Greek. All these considerations render such a rule as that of our author quite untenable, and if any changes at all are to be made in words already compounded, it would be far better to conform to the real genius of the Latin language and write *i* throughout. Dr. Coues has not followed his own rule to its limit, since he retains *pallidicincta* and *unicincta*. In these the second component is a participle, and he could have supported *pallidocincta* and *unocincta* by *limocinctus* quoted above, if not by Plautus's *unomammia*. In all cases where a genuine compound is formed it is well to keep in mind the principle thus laid down by Roby (Latin Grammar, 979) :— One of "the distinctive features of two words being compounded is the possession of but one set of inflections," and that, of course, at the end of the word, not at the point of junction.

Notwithstanding the small number of ancient Latin compounds with *o*, it is a familiar fact to any one conversant with modern scientific nomenclature that this peculiarity has been adopted and fostered to an extent that would have made a Roman stare. But it is mainly within the present century that this growth has taken place. In names, Linnæus writes the *o* a few times only, and scarcely at all among bird-names, unless the compound is a hybrid. Occasionally he will employ it when he attaches two adjectives together by a hyphen, which indicates that he does not regard them as a genuine compound. The same sparing use is apparent in the editions of Gmelin and Turton, but during the next half century the crop that springs up is large and thrifty.* The index of Gray's 'Genera of Birds' (1849) contains more than a hundred names with *o*, and considerable additions must have since been made. Little if anything can be said in favor of this *o* in ornithology ; but in chemistry, where the slight but important distinctions in different compounds is to be marked, the *o* has been utilised to some advantage, so that ferr*o*cyanide and fer*ri*cyanide stand side by side to indicate the distinction of a single atom of metal. This is both legitimate and ingenious, which cannot always be said of its usage.

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* The real genesis may be this. The Latin language was poor in words of color, and lacked definiteness and distinctness in such as it did possess. Naturalists have accordingly found it necessary to eke out the scanty stock by uniting two or more epithets, and in order to stamp such as mere agglutinatives, not regular compounds, they joined the elements by a hyphen, with *o* as the final vowel before the hyphen. Such or similar forms were gradually transferred from the language of description to the list of names, where the hyphen was sometimes retained, sometimes dropped, especially within more recent days. In ornithology it has disappeared almost entirely, but Paxton's 'Botanical Dictionary' (1868) shows it to be still employed in Botany in a large proportion of the compounds which are written with the *o*, and we see it occasionally elsewhere.

It is a pretty comprehensive rule in both Greek and Latin that the final stem-vowel, or so-called connecting vowel, disappears by elision before an initial vowel of the second element, except in Greek before words which originally began with the digamma or some sibilant, as εἶδος, ἔχω, etc. This exception in the ornithological vocabulary is chiefly confined to the ending *-ides*. But in No. 305 we read as follows:— "Megal'ŏnyx. The word is commonly accented on a long penult; a practice perhaps defensible on the ground that *megalo-ŏnyx=megalōnyx*." This implies the contraction of the two short concurrent vowels into one long; but nothing of the kind takes place here; or if it did, Greek rules would require the resultant form to be μεγαλουνυξ, which should be transliterated *megalunyx*. If, however, it is desirable to make the penult long, it might be done upon a different principle; for several of the compounds of ὄνυξ, all in fact in Homer, have ω instead of *o*, as κρατερῶνυξ, a peculiarity which is due not to contraction but to metrical needs, and the ω forms are often found in prose. Still, the short penult is common enough, and the Roman poets employed it in *sardọ̆nyx*.

Again, (453):— "Melanerpes. Gr. μέλας, genitive μέλανος, black, and ἕρπης, a creeper. The full form would be *melanoherpes*." Not so. In a word formed like this upon Greek models the *o* disappears before the vowel, and the aspirate vanishes also. In composition, it is only when the aspirate comes in contact with a preceding *p*, *t*, or *k*, that *h* is to be used to represent it, as in *Catherpes*. Dr. Coues's principle might lead to the coining of other monstrosities like *Philohela*, which should have been *Philela*, or better, *Helophila*.

In No. 799 we read: "Macrura. The word is often written *macroura*, and defensibly so, the full form being *macrooura*. But it is permissible to shorten *oou* into long *ū*, as we habitually do in *leucurus* for *leucoourus*." The "full form" can have no existence. The "*ou*" as "often written," is the transliteration of the Greek diphthong ου by two corresponding letters, as many classicists now insist that we shall write Mousaios instead of Musæus; but according to Dr. Coues's system, p. 14, ου becomes *u*.

No. 531. "Thrasyaē'tus. Gr. θ σύς and ἀητός. Generally written *Thrasaëtus*, as originally by Gray; but the above is preferable; compare *Thrasyas*, *Thrasybulus*, *Thrasymachus*, etc , all retaining the *y* (υ)." "Thrasybulus, Thrasymachus" have nothing to do with the question, which turns upon the retention of the *y* before the vowel of the second component. It is a fact that υ is usually an exception to the rule propounded above for elision, and for this reason it is likely that the first component is not θρασύς but θράσος, as we find in *Thrasokudoimos*, *Thrasippos*, θρασαυχήν. Hence, the correction from *Thrasaëtus* is open to objection.

It is to be remembered that if the second component begins with a vowel, that vowel remains, while a preceding one vanishes. Hence the division "*muia-rchus*" (377, cf. 819), for mui[a]-archus is wrong from that point of view. The inventor of *Muiadestes* seems to have been ignorant or neglectful of this principle, if the composition is μυῖα ἐδεστής, as is probable. The form should have been *Muiedestes*.

If the stem of the first element ends in a consonant, a connecting vowel is regularly needed, unless the second has an initial vowel. In No. 384 we find *Empidonax* derived from the stem ἐμπιδ- (gnat) and "ὦναξ or ἄναξ, king." If it could be made from ὦναξ, *Empidōnax* would be correct. But ὦναξ is a contracted vocative of ὦ ἄναξ. "O king," which would be the strangest possible form to compound with. If from ἄναξ, *o* would naturally disappear, and *Empidanax* should be written (cf. Hydr-anassa, Dichromanassa), unless modeled upon archaic forms. If we are left by the inventor to guess, a more reasonable derivation would be from the stem ναγ- of νάσσω, "to squeeze," and we arrive at the meaning "gnat-squeezer," instead of "gnat-O-king."

The so-called connecting vowel *i* in Latin is regularly short, and it is pretty well agreed among scholars that vowels naturally short were pronounced short in prose, even before two consonants, except before *ns*, *nf*, where Cicero explicitly states that they were pronounced long. Certainly the short vowel retains its quantity before a mute followed by the liquids *l* or *r*. Though these principles are laid down in part, p. 16, and recognized with some hesitation under No. 126, and again alluded to in 150, the writer is, notwithstanding, induced to mark the penult of *rubrifrons*, long, and accordingly to place the accent upon it, being led astray by the false analogy of *rubrīco*. This, however, is derived from *rubrīca*, which has the *i* long under the general rule that nouns ending in *-ca* lengthen the penult. Hence the quantity of the *i* in *rubrico* has nothing to do with that of *rubrĭfrons*, which is short, as Dr. Coues marks in *lúnĭfrons*, etc.

In the next number (151), we are told that "the connecting vowel *o* (of *Setophaga*) need not lengthen before *ph*." Change "need not" to *must not*. Neither the Greek aspirate nor the corresponding Latin *h* has any effect on the quantity of the preceding vowel, according to Greek and Latin rules, and Dr. Coues's quantities are regularly marked by such rules. "Need not" leaves open the possibility of the long vowel. Is it in obedience to this possibility that we have *Pētrōchelidon* in 162, *Zonōtrīchia* in 275, *leucō'phrys* in 276, &c., or are they typographical errors, which are plainly quite frequent?

The *c* of *Tephrocotis* (203) is declared to be a "connective consonant." Unless the originator of the word asserts that he resorted to this daring expedient, it would be best to seek some easier solution of the problem. κοτίς, "head," suggests itself as the probable form for the second element.

A frequently recurring example of what in these days of comparative philology is regarded as vicious teaching consists in declaring that Latin words which are only cognate to the Greek are derived from it, as *-ceps* from κεφαλή (56), *Hirundo* from χελιδών (159), *nebulosa* from νεφέλη (476), etc. That these are kindred forms is true, but for their origin we must look to some common Aryan stock from which each developed its special form after the separation of the Italic and Hellenic tribes. Some Latin words, of course, have been imported from the Greek in historic times, and such may be properly said to be derived.

The notion that the Greek is older than the Latin appears to have led to the introduction of some useless lumber. So long as the Greek contains a word cognate to the Latin and used in ornithology, it is well to have it cited for the information of the learner. Indeed, I should go further, and adduce the derivative or cognate word in English wherever we chance to have one. But such summer-day saunterings as appear in No. 306 might have been omitted to advantage. Within the same language, too, we find unnecessary material. To be more explicit, it may be asked what is the service, when deriving *familiaris* from *familia* (62), of adding, "or older *familias*?" Such a piece of information does not assist the learner; or rather, would not do so, even if it were a fact. ***Familias***, however, is not an older form of the nominative *familia*, but an archaic form of the genitive for *familiae*. Again, in No. 166:— "Ampelis. Gr. ἀμπελίς or ἄμπελος." There is no alternative here. *Ampelis* must be direct from ἀμπελίς, and ἄμπελος is best omitted altogether.

The lack of clear logic, incisive statement, and proper arrangement in the process of derivation confronts one continually. *Helminthophaga* (98) is derived from ἕλμις. This, however, does not have the stem ἑλμινθ-, but ἑλμι-. *Galeata* (684) is deduced from *galea*, and that from *galeo*. The order should be, *galeata*, *galeo*, *galea*. "Cyanocephalus (332). Gr. κύανος, or Lat. *cyaneus*, blue." Omit "Lat. *cyaneus*," and this would be correct. "Cyaneus (489). Gr. κύανος, Lat. *cyaneus*." Read Lat. *cyaneus*, Gr. κυάνεος, from κύανος. "ἡμι (586), a contraction of ἥμισυς." The former is the root-word, of which the latter is an extension. "Gr. νήττιον (715); contracted from νηττάριον, a diminutive of νῆττα." The two first are separate diminutive forms of the last.

The etymologist and lexicographer must keep in mind that a large and important factor in his work is the proper historical treatment of his words. Derivations and meanings must be traced back through all their phases, and a proper sequence in time or usage must not be violated. Dr. Coues is sometimes not very successful here. *Aurum* in 326 is, by inference, derived from Gr. αὖρον, which chances to be a mere transliteration from the Latin, and not found till towards the downfall of the Roman empire. "Falco (498). Gr. φάλκων, Lat. *falco*, from *falx*." *Falco* is cited as in use at least as early as the second century A. D. in Latin, but φάλκων does not occur till some 800 years after, and it must be simply a late Greek transliteration of the Latin word. Our word Harpy is referred (17, 531) to ἅρπη, "a sickle,"— from the *crooked beak*. In reality, Harpy comes from ἅρπυια, a quasi-participial form from the root of ἁρπάζω, "to snatch," and in Homer, where the word first occurs, it is a dim personification of the storm-wind or hurricane, with no element of the bird-form about it, and at all times it was habitually represented with the human head. ἅρπη, on the other hand, in Homer is some bird of prey, named from its raptorial habits.

Motacilla (86) is explained as a hybrid from *mota-* κίλλω. We have hybrids enough, certainly, without increasing the list unnecessarily. *Motacilla* is a word used by Varro who wrote in the last century before the Christian Era, and it is cited by him as undoubtedly an old and common word of the people. We cannot suppose, then, that the Italian people, who knew no Greek, compounded a hybrid word, the Greek part of which is not even a current Greek verb. However, there is a Latin verb *cillo*, "to move," by the use of which we might escape the hybridism. But it is more natural to suppose that *-cilla* is simply the diminutive termination added to the stem of *mota-re*, as *novacula* from *novare*, with a termination like that of *oricilla* for *auricula*. Varro's employment of the word in the midst of several bird-names with diminutive terminations points also to this conclusion, and a gloss of Cyrillus's explains σεισοπυγίς by *moticella*, *motacella*, where the diminutive cannot be mistaken. Still, there seems little doubt that some of the ornithologists have formed their words upon the supposition that *cilla* meant tail, and some philologists array a Sanscrit cognate in its favor.

However this may be, *motacilla* is a genuine Latin word, and we pass on to something of a curiosity in logic, by which it is sought to go back of the derivation given by the inventor of a word and find something better for it. Audubon is said (594) to have invented *Aphriza* and to have derived it from ἀφρός and ζάω. Our author inclines to follow Wharton (who, we will hope, did not know Audubon's paternity) and derive from ἀφρίζω.

Dissatisfaction is expressed with the reference of *Numenius* (643) to the Greek νουμήνιος, "the narrow arcuate bill being likened to the new crescent moon," and it is suggested that the word may come from the Latin *numen*, although the "ornithologists of the heroic age" knew very well that νουμήνιος was a common Hellenic bird-name in the time of the old Greek Diogenes Laertius. But suppose we grant that the derivation from *numen* is possible (?), and assume that *Numenius*, which is not a classic Latin word, means the "nodder," the following does not seem very clear:— "Whichever of these derivations we approve, they amount practically to the same thing; for *numenius* certainly refers to the shape of the bill."

In the next case it will be necessary to transcribe a rather long note in full.

"313. Mō-lō′-thrŭs ā′ter. *Unde derivatur?* The orthography and etymology of *molothrus* are alike in dispute. Swainson himself says 'μολοθρος, *qui non vocatus alienas aedes intrat*'; that is, an uninvited guest. There being no such Greek word as μολοθρός, but there being a good Greek word μολοβρός, meaning one who roams in quest of food, a vagabond, a beggar, a parasite, a 'tramp' (as we should say now), and therefore exactly answering to Swainson's explanation of his *molothrus*, it has been supposed by Cabanis that Swainson meant to say *molobrus*, and the word has consequently been changed. Though this is very true, it is also to be observed that Swainson wrote *molothrus* more than once, showing it not to be a misprint or other mistake, and that, further, it is quite possible to construct the word *molothrus* from μῶλος and θρώσκω (θορεῖν, θόρω, θύω), and answer all the conditions of Swainson's definition; *molothrus* being, in this case, a bird which takes uninvited possession of other birds' nests, and there leaves an alien egg in mockery of the rightful owners. We therefore see no necessity to replace *molothrus* by *molobrus*. The first *o* is marked long as being Gr. ω, the second as lengthened by position."

If any one will take the trouble to consult the Greek 'Thesaurus' of Stephanus, edition of 1822, he will find there in its proper place the following:—"μολοθρός, *qui non vocatus alienas aedes intrat*." The word is introduced into the 'Thesaurus' on the authority of Suidas who gives it without explanation, and of Apollonius who cites the feminine μολοθρή in his Homeric Lexicon as an explanation of the Homeric βλωθρή. Editors of Suidas now incline to read μολόθουρος, a plant, for μολοθρός, and in the later edition of the 'Thesaurus' Dindorf conceives μολοθρή, to be an invention of the Grammarians. Swainson, however, had the authority of the great lexicon of the day for his word and its meaning, whatever may have been its real status in the language, and was quite justified in his use of it. The fault, if anywhere, rests with the lexicographers, and Swainson's word should stand as he gave it.

Aix (719) has been written as a dissyllable, notwithstanding some misgivings on the part of the author. Though the earliest application of the word may be in doubt, it certainly has been regarded both by tradition and by the commentators on Aristotle as a monosyllable. There is no hint of any other view in the MSS. of that writer, and Gaza translates by *capella*, "the little goat." Gaza, it will be remembered, was a learned Greek who fled from Constantinople upon its capture by the Turks, and took up his abode in Italy, where he devoted himself to the diffusion of a more accurate knowledge of his native tongue, and especially to the translation of Aristotle into Latin. Bringing with him the traditions of the schools as they had been handed down from antiquity, his version is of great importance, and it settles the question raised about *iliacus* (4), for that is the word which he used to translate ἰλιάς (literally "of ilium") which is found in the text of Aristotle as the name of a Thrush, and later authors followed him. Some commentators have preferred to change this reading of Aristotle to ἰλλάς "gregarious," as found in Athenæus, in order to secure the more obvious application of the term. The Aristotelian τριχάς (141) is rendered *pilare*, by Gaza, and *pilosa* by Thomas, thus showing that they derived it from θρίξ. In like manner, his version gives a satisfactory account of *hiaticula* (589). When translating Aristotle's χαραδριός, he says, *quasi hiaticula dixeris*. He was coining a word to suit the radical sense of the Greek.

Some cases have already been mentioned in which the "longer" or "fuller" form was referred to, where the learner should beware of being misled. A few others must not be omitted. Of *megarhynca* (285) it is said, "more exactly to be written *megalorhynca*." Not "more exactly"; for *megarhynca* is made from one stem, *megalorhynca* from another, of the same adjective, both equally legitimate, though the latter is more common. Still, Liddell and Scott give nearly twenty compounds into which μέγα enters. Again, *Spermophila* (296) "is contracted; the full form is *spermatophila*." But the 'Lexicon' cites more than twice as many compounds from the stem σπερμ- as from σπερματ-. "We believe either *mitrephorus* (392) or *mitrophorus* to be admissible; the former has currency though the latter may be preferable." Both forms are found in good Greek writers, the former in early Greek, the latter later. Possession of the field should be more than nine points in its favor under such circumstances. *Thyroides* (449) is referred to θυρεοειδής, and the fuller form is said to be *Thyreoides*, which would be right if the first step were correct; whoever introduced the word, however, is more likely to have taken it from θυροειδής, "door-shaped," at once, if he has not expressly declared to the contrary. The two words were confused early. Of *Dendrœca* (111) the full form is said to be *Dendrœcetes*. Yet there are more Greek models for *Dendrœca* than for the other form. The ancient compounds of οἰκέτης or οἰκητής are very few. And here we may add that of the two, οἰκητής is more likely to be the proper form in ornithological compounds, since this means an "inhabitant," the other almost always a "slave"; so that the penult of such forms should be long and accented.

This leads us to the correction of the accent of several words. It may be premised that all such corrections are based upon the principles of Greek and Latin quantity, which Dr. Coues habitually follows. If any one choses to say Lophophă'nes (40) for ease of pronunciation, or to emphasize a stem syllable, he starts upon a different basis entirely. He certainly must not suppose that "the *a* in *-phanes* represents two vowels, *ai* or *æ*, as in *phænomenon*, *phænogamous*." Both these words are made from the *present* stem of the verb, which regularly adds an *i* (*e*) to the root of the word, thus presenting the form *phæn-*. Usually, however, in composition the genuine root *phan-* is employed which is naturally short, the *i* being confined to the present system. In fact, it is very largely the rule in Greek compounds that the short root of the verb is employed, and not the lengthened present stem, as in *Troglodўtes*, *Carpodăcus*, etc. *Thryothō'rus* (68) and *Cistothō'rus* (81) ought not to be from θοῦρος, but from the root θορ-, giving *Thryóthŏrus*, *Cistōthŏrus*, as βουθόρος (Æschylus, 'Supplices'). θοῦρος would transliterate *-thurus*, not *-thorus*. *Pyr'rŭhla* (191) should be *Pyrrhū'la* as taken directly from Aristotle's πυῤῥούλας. (See Gesner, 'Aves,' *sub voc.*). *Oregonus* is accented on both penult (303) and antepenult (263). The word is Latinised, and words in *-onus* in Latin have the penult long. *Molothrus*, *Scandiaca*, *Cantiaca*, *Satrapa* should have a short penult, *Coccygus*, *Aegialites* a long one. *Haliaetus* and the other words containing the same final component are marked with a long penult, although Dr. Coues assumes the prosaic form as the proper one to determine the spelling of the first syllable of that component. In prose all the forms appear with a short penult, and ἀητός is a very rare form indeed, even in poetry; so that it seems hardly consistent to accent the penult on account of this poetic form.

Lastly, we must speak of some of the changes which are noticed by Dr. Coues as having been made in long-standing words. It would seem reasonable to lay down the rule that the inventor of a word has a right to the maintenance of his form, unless some sound objection can be urged against it. If genuine analogy can be shown to support the form, it should not be altered to correspond with something that may be of more frequent occurrence, simply because it is unusual. Uniqueness may be a strong recommendation to some. If the word is from the Greek or Latin the analogue must be adducible from those languages. Something has already been said upon such cases. To proceed.

Rafinesque is said (96) to have written *Helmitherus*, which is asserted to be inadmissible since it must come from the stem ἑλμινθ- from the nom. ἕλμινς. Accordingly, *Helmintherus* has been written, with a longing for still further change, to *Helmintheras*. But there is another stem, ἑλμι-, used by Aristotle, which, with the addition of *-therus* from θήρ, would give the word of Rafinesque exactly and legitimately. For the form of the second component we have a large number of models, as λεξίθηρος.

Pelasgia of Linnæus is objected to (405), and *Pelasgica* substituted in its place. The former is as good a form for the feminine of the adjective in Greek as the latter, and occurs in Æschylus.

Before accepting *plagata* for *plagiata* (527) it would be well to weigh the fact that *plagiare* was used in mediæval Latin in the same sense as *plagare*.

In closing, it may not be amiss to offer the suggestion that a rule be established that hereafter whenever an ornithological name may be coined the inventor shall publish, along with the description of the bird, the derivation of the name and the model upon which it has been constructed, somewhat in this form: —

Castanogastris (κάστανα, γάστρις, "chestnut-bellied"); model, ζωνόγαστρις (Hesychius).

This would serve a four-fold purpose. It would preclude all criticism if properly done, secure more accurate and legitimate words, insure to the inventor the exact form which he has preferred, and save future lexicographers a deal of trouble and vexation of spirit.

24 letters.

ORNITHOPHILOLOGICALITIES.

BY PROFESSOR ELLIOTT COUES.

Professor Merriam may imagine with what mixed amusement and consternation we find ourselves sent down to the foot of the class for missing our lesson and kept in after school to learn it. Twenty-five years ago, when Latin grammars and Greek dictionaries looked bigger to us than they do now, the Professor's attitude would have seemed to us quite natural and proper; indeed we should have admired alike his erudition and his authority. But it is otherwise now that we have forgotten all the parts of speech in learning in the school of linguistic experience that the rules of Latin and Greek grammar are the masters of boyish students and the servants of scholarly men. While it is not necessary for us to stand *super grammaticam* to object to the rule of the ferule, yet, were this position required, we should not hesitate to assume it with entire confidence in our ability to maintain it. We have been too long in the green-room of philology to be deeply affected by the glare of the footlights. Thanking our genial critic for this pleasant reminder of our college days, which brings up the scenes of our youth and almost makes us feel young again; assuring him of the perfect good nature with which we take his shingle full of philological holes, we nevertheless beg to amuse ourselves in turn by playing the professor. We own the soft impeachment of "that divine seeking which longs to be right and know why it is right"; we confess a "positive passion" to learn how to express our thoughts in a manner worthy of ourselves, of the discoveries our critic has made, and of the beautiful science of philology which he loves. Wherefore, we beg to dissent in general terms from the tone and tenor of Professor Merriam's remarks, and to disagree with him in sundry particulars.

(*a*) Professor Merriam's review of the 'Coues Check List of North American Birds,' is a piece of obvious hypercriticism from beginning to end. It is pitched upon a philological E-string instead of the natural A, and then fiddled above the bridge. Every scholar will recognize the skill with which this is done, and we bear witness alike to the care with which Professor Merriam has guarded his points, and the soundness upon which they rest. But it is a canon of criticism, which practised book-reviewers recognize, and which we suspect Professor Merriam has yet to learn, to hold in view always what the author undertook or intended to accomplish, not what the reviewer thinks the author might, could, would, or should have done. For example: We wrote a little book to explain the meanings in English of some 1200 or more foreign words from almost every language under the sun — chiefly Græco-Latin, but also barbarous in every degree of barbarity. We addressed a *clientèle* some percentage of which required to be informed that *caput* and κεφαλή mean head, and that the genitive of *caput* is *capitis*, and that κεφαλή is *cephale* in Latin letters.* We also tried to patch up or do away with some of the worst atrocities of bird-Latin, as far as the rules of zoölogical nomenclature (which we perceive that Professor Merriam knows nothing about) would permit us to do so, in fact taking liberties in this particular which many zoölogists have already resented. We were furthermore hewing our way where no one had gone before in any systematic manner, with few finger-posts off the common dictionary highway, again and again forced to fall back upon our instincts of philological locality and our linguistic intuitions, in order to find our way at all. How nice it is, under such circumstances, to hear the rustle of the silken robes of a professorial chair in the following, for instance:—

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*In fact, the most serious defect of our 'Lexicon' is, that we did not transliterate the Greek characters.

"A frequently recurring example of what in these days of comparative philology is regarded as vicious teaching consists in declaring that Latin words which are only cognate to the Greek are derived from it, as *-ceps* from κεφαλή," followed by remarks upon Aryan stock, the separation of Italic and Hellenic races, and the comparative antiquity of the Greek and Latin languages."

Under the circumstances, this is not only hypercriticism, but pure pedantry. We never declared that Latin words which are only cognate with the Greek are derived from it. We made no declarations upon the thesis of cognation as distinguished from direct derivation. If we had been at an essay on that subject we should have perhaps produced one. All we did, or intended to do, was to adduce *-ceps*, κεφαλή, *caput*, *cephalic*, *occiput*, etc., as words referring alike to 'head.'

One more example of this pedantic hypercriticism and we will pass to other matters. Our suave critic remarks with fortitude that "the lack of clear logic, incisive statement, and proper arrangement in the process of derivation confronts one continually" in our little book. He supports this generalization by saying, among other things, that we deduce *galeata* from *galea*, and that from *galeo*, making it appear that we do not know that *galeata* is a participle meaning 'galeated.' In point of fact we deduce nothing of the sort; we make no deductions of any sort. Our words are: "Lat. *galeata*, helmeted; *galea*, a helmet; *galeo*, I crown with a helmet"; all of which we submit is perfectly true. For a case of the Professor's *fortiter in modo*, *suaviter in re*, let this suffice. To take him on his own ground, however, we beg to state that we do not believe the proper derivative sequence of *galea* and *galeo* to be as he asserts, though we do not propose to discuss whether a verb or a noun is the most primitive part of speech. There are treatises enough on that subject already.

(*b*) Passing to a further point, we beg to instruct our critic in another canon of criticism; which is, to review a book upon its merits as well as upon its demerits. The heart of sound and useful criticism consists not in finding fault, but in correctly adjudging the praise and blame which a book may deserve. It is dangerous for a reviewer to spend a dozen pages of rebuke upon a book for which he has just one line of qualified commendation. Literary men understand this perfectly well; it always makes them suspect the animus of a reviewer—perhaps unjustly. Still the suspicion will enter their minds; there is room to surmise some private grudge, or private purpose; it looks to them like "an attack"; in which case the unpractised reviewer's blunder deprives his most just and conscientious criticism of its due weight, and defeats his own purpose, whatever that may be. Moreover, the average reader gets an idea, somehow, that there must be something remarkable about a book bad enough to be pursued for a dozen pages with "fateful law unredeemed by clemency." We say these things with regret, and only to instruct our critic in the art of criticism; for, as we have said, we regard his review as a perfectly fair, upright and downright piece of pedantic hypercriticism, to which we have no right nor desire to object, if it suits his fancy to indulge in that amusement. We do not even take the liberty of admonishing him that his "positive passion" for expressing himself on the subject of philology is open to the suspicion of being merely a ventilation of very little learning, on very small provocation, on a very untimely occasion. For example, the Professor says of our work:

"The plan is excellent and the great majority of the derivations are correct; but the treatment of some of the most essential points which should form the initial training of the word-constructor and word-expounder is erroneous and misleading; to show this with as much clearness and detail as a limited space will permit is the purpose of this article." But where, in the dozen pages which follow, does Professor Merriam show that the plan is excellent and that the great majority of the derivations are correct? There is not another word about the excellence of the plan or the correctness of the great majority of the derivations. On the contrary, our erroneous and misleading treatment of the essential points which should form the initial training of the word-constructor and word-expounder receives our critic's undivided attention — attention lavished upon authors so long past their "initial training" in the use of language that they remember little of, and care less for, any possible verbal quibbles or grammatical quirks—attention that had much better have been bestowed upon such "small minority" of their derivations as may be found incorrect. For when the professional word-expounders have set their own house in order, and have agreed upon what's what, will be time enough for the rest of us to mind what they say.

To illustrate our meaning, and possibly make it clear to our pains-taking and unnecessary critic: His opening charge upon *aurum* and **χρυσός** being passed over as mere verbality, which will not hold water for a moment as serious criticism—as just about what one should bounce one's little son with if he got out on his *musa*, *musæ* — we find the Professor formulating our views on the orthography of a certain class of Latin words in this way:

"The terminal vowel of the first component before a consonant should be *i* unless the second component is a participial form; then it should be *o*, because it is the ablative, and we are to say *albocaudatus*," etc.; whereupon follows a neat little disquisition upon connective vowels, to show how foreign to the real genius of the Latin tongue the *o* is; backed up by considerations of the quantity of the termination of the ablative case according to Kühner and the "best German authorities." This sounds formidable; but—bless our philological soul! — we thought everybody knew that before it was thus put in such a masterly manner by our critic, and never thought of evolving any principle in the matter. What we *did* say was, that *atri-*, *albi-*, *magni-* (with the *i*), is undoubtedly a correct form of such compounds, and that we simply put *atro-* in the ablative of instrument conformably with usage in *Picus albolarvatus*, *Tyrannus aurantio-atro-cristatus;* and we find the Professor, with the help of his 'Harpers'

Latin Dictionary,' adducing about thirty cases in support of our position which he attacks so vigorously. We are delighted to find there are so many cases of the kind; we had no idea there were so many in "genuine Latin," though we could show up many hundreds in fair to middling bird-Latin. We are inclined to plume ourselves on our sagaicty, though it may be simply "through the influence of Greek literature" upon our minds that "the *o* crept into this small corner of" our work. We will hereafter write *atrocristatus* with entire confidence, and cite our critic, if need be, in support of our views; even though, as he appears to be in dead earnest and very serious about it, it is a good deal of Don Quixote and the windmill over again. Let us in our turn say a word to our critic on the general subject of connecting letters in Græco-Latin, for his own information. It is this: that there is no vowel, and possibly no consonant, in the whole alphabet that may not serve that purpose. Once more: if we were not in the best possible humor, we might be inclined to say something sharp on being referred to our Latin grammar to learn that Roby says that one of the "distinctive features of two words being compounded is the possession of but one set of inflections"; and that, as Professor Merriam kindly informs us, "of course at the end of the word, not at the point of junction." We begin to think that our "initial training" was all wrong, after all; for it seems to us we do remember something about our early struggles with *respublica*, *jusjurandum*, *paterfamilias*. Can Professor Merriam be ignorant of the fact that the genitive case of *respublica* is *reipublicæ;* that it is a compound word; that it has two sets of inflections; that one of these is at the point of junction?

Let us try another "summer-day sauntering" with our æstivous critic; if he finds us as amusing as we do him we shall both be amused. Let us saunter on to contractions in general, and contractions of *oou* in particular. The hitch with the Professor appears to be that he misunderstands our use of the word "full form," by which we simply mean all the letters which enter into the composition of a compounded word. Does he suppose us to mean that *leucoourus* can have any existence? We simply say what is perfectly correct, viz., that the composition is *leuco* + *oura;* when in *leucoura*, as often written, we preserve one *o*. and translaterate **ου** by *u;* and in *leucura*, as often written, we elide the other *o;* leaving a remarkably long *u* to do duty for *oou*. So with *megalonyx;* where we instinctively lengthened the penult—though we confess, upon not so good a principle or precedent as the Professor furnishes to support us.

We can note but a few more points, by which we mean to show how light is the real weight of what looks at first blush to be very heavy criticism. Take *Molothrus*. The upshot of that matter is, that Swainson's word "should stand as he gave it," which is exactly how we left it standing. *Spermophila* we said to be contracted from *Spermatophila;* so it is; and the fact that there are in the Lexicon "more than twice as many" similar contractions has no bearing upon the case in any way. Take *thyroïdes:* respecting which it would be easy to retort upon the Professor, that he would have been right had his first step been correct. Take

Dendrœca: we said the "full form" would be *Dendrœcetes;* so it would be; and the fact that there are more Greek models for a shorter form does not affect our statement in any way.* But before we leave this subject we must express our surprise that Professor Merriam should as a purist and classicist even by implication assent to such a monstrosity as *Dendrœca*, or *Dendrœcetes* either, considering how "many classicists now insist that we shall write *Mousaios* instead of *Musæus*."

In orthoepy, we find that the Professor catches us in a number of "false quantities," and we feel the ferule on our knuckles. We gracefully concede the point, and with alacrity add the expression of our amazement that there are not more of these dreadful things to be atoned for—considering that we are habitual sinners in this respect in our conversation, with no hope of repentance; and that it was only by the most resolute buckling down to that point that we got so many of our quantities about right. We are likewise pleased to learn that we may return to *Helmitherus* and *pelasgia* on the authority of Aristotle and Æschylus, and may say *plagata* or *plagiata* as we may prefer. We also heartily endorse Professor Merriam's suggestion, more notably Utopian than novel, that future minters of bird-Latin shall say what they mean in coining names, and so save future authors and their critics a deal of trouble and vexation of spirit. That is not a Quixotic idea; it is a dream of Arcadia. But what would then become of reviewers, should philologists and ornithologists prove *Arcades ambo?*

(*c*) We have thus written ourselves into such a blessed good humor, that we hardly have the heart to adduce the real gravamen of our rejoinder. We had two reasons for replying to Professor Merriam. But for these we should have let his remarks go for what they may be worth; for we seldom find it necessary now-a-days to take issue with those critics who honor our productions with their distinguished consideration.

Our contention is, that Professor Merriam's article conveys the impression, to all excepting scholars capable of weighing his remarks with ours, that it is a "sockdolager"; that is to say, that it would make those very persons whom our 'Lexicon' was designed to assist and benefit, believe a pretty nearly worthless work to have been effectually deprived of its pernicious effect by being thus handsomely and conclusively crushed beneath the weight of professorial philological erudition. But in point of fact, nothing of the sort has occurred. Nothing would be easier than for us to tilt, and pretty successfully, against almost every one of the purely philological points which our critic has raised. But where would be the use? The majority of the readers of 'The Auk' would merely discover that a war of words was going on, and would be bored to death. Does Professor Merriam flatter himself that the clientèle he seeks in 'The Auk' are interested in his nice points? His article is a good article, entirely out of place. It should have been addressed to philologists, through an appropriate medium. Otherwise, before concluding his observations, he should have explained just what bearing his criticisms have; how far he expected to influence ornithological opinion of the general trustworthiness and value of the treatise; what damage he supposed he had done, and how much of the book, if any, he thought might survive the infliction, etc. In fine, why not have given us his opinion of the book on the whole? If it ought to be damned, why not have said so, in language that any one could have understood? No, Professor, you are quite wrong. We have done our share of reviewing for many years, and have learned to apply to the works of others a touchstone which we leave you to discover the art of using. You will, we trust, perceive that touchstone in the paragraphs which have preceded this one, and in those which are to follow.

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* While we are on words ending in *-œcetes*, let us whisper to our critic that he missed one of the best things that lay in his line. Baird, in 1858, coined three words, which he wrote *Poocætes*, *Pediocætes*, *Nephocætes*. Sclater, in 1859, emended the first of these into *Poœcetes*, and we later followed suit with *Pediœcetes* and *Nephœcetes*, on the idea that οἰκέτης was concerned. The fact is, these words were formed, like *Ammocætes*, etc., from κοίτη, *Poocætes* (i.e., *Poocætes*) meaning the bird that makes her bed in the grass, etc.

Our other reason for replying is, that we are anxious to have the benefit of all the sound criticism we can secure, in view of a third edition of the 'Check List.' We wish to be set right wherever we have gone wrong. The praise that our little piece of pioneering has received from mouths of wise censure no more blinds us to its many defects, nay, great defects, than does such criticism as we have met open our eyes to any of its real merit and usefulness. Our annotated copy stands ready to receive and incorporate every correction of a wrong etymology, of a false quantity, of an inelegance even, which may be pointed out; but it is not open to any results of fiddling above the philological bridge — that being quite out of our line, and entirely foreign to the scope and aim of this particular book. We have for some time intended to review our list of names, and make ourselves a good many needed corrections — partly the result of our own studies, partly the fruit of several just and generous criticisms which our work has elicited. As most of our real blunders appear to have escaped Professor Merriam's observation, we beg to call his attention to the following list of words; and, since he has assumed censorship, we have a right to require him to give us the benefit of his learning; with the assurance that it will be kindly received, respectfully considered, and, if found available, be incorporated in the next edition of the 'Check List,' with proper credit to himself. *

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* Should Professor Merriam wish to study bird-Latin further, we can confidently commend to him 'A List of British birds compiled by a committee of the British Ornithologists' Union.' This is what we refer to in following paragraphs as the 'Ibis List,' in which Mr. Henry T. Wharton has done for British Birds what we have attempted to do for American ones. The Index of Gray's 'Hand List' might also furnish him with food for thought, while Sundevall's 'Die Thierarten des Aristoteles,' u. s. w., might be found to contain some valuable reflections.

No. 4. *Iliacus.* Professor Merriam's remarks upon this word are interesting and valuable, especially as they also bear upon No. 141, *trichas.* See also the 'Ibis List,' p. 2. But how does this view bear upon No. 282, *Passerella iliaca?* Merrem, in naming an American Fox Sparrow *iliaca*, certainly could not have intended to call it a Trojan. We said it might be intended to note some resemblance to *Turdus iliacus*, or refer to the conspicuous markings of the flanks (iliac region). Most probably, we may now suppose *iliaca*, as applied to the Fox Sparrow, means simply thrush-like.

No. 33. *Calendula.* We were doubtless right in deriving this word from *caleo*, but wrong in saying that it was "apparently coined by Brisson in 1760"; for the 'Zoologist' reviewer says that it was used in botany centuries ago, quoting Gerard's 'Herball,' 1597: "The marigold is called *Calendula;* it is to be seen in floure in the Calends of almost every moneth."

No. 86. *Motacilla.* We must take definite issue, and agree to disagree, with all those who, upon purely etymological grounds, say that *motacilla* does not mean literally wag-tail. The 'Ibis List' states the case thus: "*Motacilla*, as if *motăcŭla* from **motax*, from *mōto* = I keep moving. Hence not a compound as has been alleged [by ourselves, for example]. of a non-existing word κίλλος = a tail." This makes *motacilla* mean, of course, a little thing that keeps moving; whereas we insist that it means the bird that wags its tail. No matter what it *ought* to mean, to be etymologically proper; it *does* mean wag-tail, '*quod semper caudam movet*, and is synonymous with κίλλουρος, σεισοπυγίς, *siurus*, *hochequeue*, etc. The etymologists, we admit, are perfectly right; but we submit that the ornithologists who make or use the set of words ending in *-cilla* do intend it to mean -tail; and we are glad to learn that "some philologists array a Sanscrit cognate" in favor of this view. *Motacilla* is harder to defend than such words as *ruticilla*, *albicilla*, *atricilla*, *bombycilla*, etc., which do mean, and were meant to mean, red-tail, white-tail, black-tail, and silk-tail. We are ready to surrender our technical etymology (which was simply a groping in the dark after what was needed), but we really have a right to ask Professor Merriam, or Mr. Wharton, to explain *bombycilla*, for example, on any other theory than that it means silk-tail.

No. 169. *Myiadestes.* This unhappy word being up for castigation again, after having caused an international controversy in a number of articles, we are proud to find Professor Merriam with us as to its derivation from μυῖα and ἐδεστής, which we believe we were the first to insist upon, when combatting the idea that it should be changed to *Myiadectes.* But we cannot agree with him that the proper form should be *Muiedestes.* We should say *Myiedestes*, as the 'Ibis' reviewer has pointed out. Swainson originally wrote *Myadestes*, but he was as great a sinner as an average Frenchman in compounding words. By the way, will Professor Merriam tell us what should be the nominative plural of *Myiadectes?* For we observe that the "Ibis" reviewer has it *Myiadectæ.*

No. 191. *Pyrrhula.* This we called a diminutive of *Pyrrhus* = πυῤῥός, fiery-red (πῦρ, fire). So it is, *in form;* but, as Professor Merriam says, the actual derivation is otherwise. In the 'Ibis List' *Pyrrhula* is given by Mr. Wharton as Latinized direct from πυῤῥ[illegible]λας, a red bird in Aristotle, from πυῤῥος, and perhaps οὐρά, tail, as some texts read πυῤῥούρας. On this understanding the word is *Pyrrhu'la*, not *Pyr'rhŭla*.

No. 192. *Passer*. We have nothing to detract from what we said of this word, but will insert here what the 'Ibis List' gives: "The original form was probably **sparg-ter* (as *sparsus* = **spargtus; rs* then becomes *ss*, cf. *russum* for *rursum*), from the root of σποργίλος = some bird in Aristophanes (*Av.* 300), and of σπαργάω = I swell, meaning 'the wanton bird'; akin to our 'sparrow.'" If Professor Merriam agrees to this, it bears out our idea and suggestion, that the bird was named for its salacity, though we did not know enough about the word to prove it.

No. 209. *Hornemanni*. The 'Zoologist' reviewer supplies the full name: Jens Wilken Hornemann, *1770-†1841. He was the author of a 'Haandbog for Fugleelskere.'

No. 227. *Savana*. The London 'Athenæum' reviewer points out that the actual pronunciation of the Spanish sábana is undoubtedly with the accent on the first syllable. This we did not know; but we correctly accented *sava'na* as the Latinized form of the word.

No. 326. *Oriole*. "Dr. Coues does not seem very clear about the origin of the name oriole, although it has been traced by Littré directly, along with the French form of the same word, *Loriot*, from the Latin *aureolus*, golden." ('Zoologist' reviewer.)

No. 329. *Parisorum*. The 'Ibis' reviewer catches us here at great fault. We might have known that the bird was dedicated to the brothers Paris, and not to the people of the city of that name.

No. 333. *Quiscalus*. We discussed this word at some length, coming to no satisfactory or final conclusion. The London 'Athenæum' reviewer suggests a probable etymon in inquiring, Is there no Mexican Indian word like *quezcal* which could be Latinized into *Quiscalus?* Compare also *quezal* or *quesal*, the native name of the Paradise Trogon.

No. 359. *Perisoreus*. We advanced a purely conjectural derivation of this word, and our guess in this case is wide of the mark. According to Agassiz's 'Nomenclator,' to which the 'Zoologist' reviewer refers us, the word is derived from περισωρεύω, *accumulo*, I heap up all around. "What the application of the name may be we are not sufficiently acquainted with the bird's habits to disclose, but it clearly has to do with the bird's affinity to the magpie, and the well-known tendency to hoarding which that bird has." But we *were* after all on the right scent when we noted σορός (i. e. σωρύς, cf. σωρεύω); and did more than "indulge in a little imagination about it."

No. 416. *Atthis*. The 'Zoologist' reviewer very properly administers a rebuke to the lack of gallantry in forgetting, or omitting to state, that *Atthis* is the name of the beautiful maiden who was the beloved of the poetess Sappho.

No. 462. *Bubo*. In connection with our conjectured relations of this word, see th [illegible] List' p. 90. Mr. Wharton concurs with us to compare

βύας, βῦζα, βύζω, I hoot, etc., from the root of **βοή**, a cry, and cites Byzantium, 'the place of owls.'

No. 491. *Ictinia.* Here is a point on which Professor Merriam might have thrown some light. We gave as probable radication **ἴκτερος**, a disease, in the idea of attacking; *ictus*, a blow, etc. Wharton says (l. c.): Perhaps from the root **ικ**, to strike, as in **ἶξ**, **ἴψ**, a worm, **ἴπνη**, a woodpecker, *icere*, to strike, etc.; but then adds, more probably from Skt. çjena, a falcon, as if ***ἰ-κjεῖνος**; cf. **ἰκτίς**, a pole-cat, thief.

No. 494. *Accipiter.* Should not Professor Merriam have helped us to decide which of the alternative derivations we gave should be accepted? Wharton gives **ὠκυπέτης**, swift-flying, — thus making it formed on the model of, and synonymous with, **ταχυπέτης**, *Tachypetes.*

No. 498. *Hierofalco, Gyrfalcon.* Why could not Professor Merriam have given us the benefit of his sound erudition on this? We advanced what the 'Zoologist' reviewer calls an ingenious idea, very probably true; but it is against Skeat (whose 'Dictionary' we had not seen when we wrote the 'Check List'). The word seems to trouble the etymologers, and no doubt the ornithologists would be glad to have them settle it among themselves.

(*To be concluded.*)

THIRD ADDENDUM TO THE PRELIMINARY LIST OF BIRDS ASCERTAINED TO OCCUR IN THE ADIRONDACK REGION, NORTHEASTERN NEW YORK.*

BY C. HART MERRIAM, M. D.

206. **Turdus aliciæ bicknelli.** BICKNELL'S THRUSH.—In my cabinet is a specimen of this recently described Thrush which I shot in Lewis County, near the western border of the Adirondacks, May 24, 1878. It is a male of the preceding year and its scapulars still show several (four on one side and one on the other) of the light tear-shaped spots so characteristic of immaturity in this group of Thrushes. Following are its measurements:—

No. 1873 (Mus. C. H. M.) ♂ one year old, Lewis County, New York, May 24, 1878. Length, 174 mm. (6.85 in.); extent, 293 mm. (11.53 in.); wing, 92.25 mm. (3.63 in.); tail, 70. mm. (2.75 in.); culmen from feathers, 12.50 mm. (.50 in.); culmen from base, 17 mm. (.66 in.); depth of bill at nostrils, 3.75 mm. (.15 in.); tarsus, 28.50 mm. (1.13 in.).

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* For the original list and first and second addenda, see Bull. Nutt. Ornith. Club, Vol. VI, No. 4, Oct. 1881, pp. 225-235; Vol. VII, No. 2, April 1882, p. 128; Vol. VII, No. 4, Oct. 1882, pp. 256-257.

It will thus be seen that this individual is smaller than the average of the males of Mr. Bicknell's type specimens taken in the Catskills,* and is also smaller than those killed by Mr. Brewster on Mt. Washington.†

207. **Cistothorus stellaris.** SHORT-BILLED MARSH WREN.—Mr. Romeyn B. Hough shot two females of this Wren, October 27, 1877, in the town of New Bremen in Lewis County, and writes me that he is "confident that they breed there every year."

208. **Dendrœca tigrina.** CAPE MAY WARBLER.—Dr. A. K. Fisher informs me that he has seen a specimen of this species that was killed at Lake George, May 27, 1883, by Oliver B. Lockhart. The late Mr. A. Jenings Dayan told me, not long before his death, that he was positive that he had seen a Cape May Warbler in the town of Lyonsdale, in Lewis County, but not having secured the specimen he was unwilling to have the event recorded.

209. **Herodias egretta.** GREAT WHITE HERON.—Dr. A. K. Fisher writes me that "a large white Heron was seen in the marsh at the head of Dunham's Bay, Lake George, Warren County, N.Y., for a period of a week or more in the latter part of May or first of June, 1883. It was seen by a number of residents of the neighborhood, its color rendering it very conspicuous, and was shot at several times at long range without effect."

210. **Sterna fuliginosa.** SOOTY TERN.—Through the courtesy of the Curator of Ornithology, Mr. William Brewster, I have been permitted to examine an immature mounted specimen of the Sooty Tern which is in the Museum of the Boston Society of Natural History. It was secured at Lake Champlain, September 6, 1876, by Jenness Richardson. The bird has not, to my knowledge, been previously taken so far inland; but it must be remembered that the date of its capture (Sept., 1876) is the same as that of the extraordinary influx of this species into New England.‡

211. **Hydrochelidon lariformis.** BLACK TERN.—Mr. Thomas B. Osborne of New Haven, Conn., has recently sent me a skin of a young Tern of this species that he killed at Schroon Lake (in Warren and Essex Counties) on the 18th of August, 1876. Mr. Osborne writes me: "I killed three Terns at Schroon Lake out of a flock of perhaps half a dozen. They were all in the same plumage as the one I send you [which is a young-of-the-year bird]. I have been at Schroon Lake four Augusts but never saw any Terns there, of this or other species, excepting the flock from which these specimens were procured."

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* Ridgway, Proc. U. S. Nat. Mus., Vol. IV, 1882, pp. 377-379.

† Brewster, Bull. Nutt. Ornith. Club, Vol. VIII, Jan. 1883, pp. 12-17.

‡ Merriam's Review Birds Connecticut, 1877, pp. 134-135.

A STUDY OF THE SINGING OF OUR BIRDS.

BY EUGENE P. BICKNELL.

INTRODUCTION.*

THE subject of the singing of our birds seems never to have been pursued as a distinct branch of ornithological study. Even in our most complete bird-biographies song is rarely introduced except descriptively or in poetical allusion. But the voices of birds, apart from their intrinsic interest and their associations, are closely related to the times and seasons of the birds themselves and to other phenomena of their lives. And yet, judging from our present ornithological literature, this seems to have been wholly overlooked. We have, indeed, scattered records of individual variation in the songs of birds and of variation in the notes of a few species at different seasons and in different regions, and some well-known examples illustrative of the latter fact, but we have little else. In view of these facts the present paper appears. But while the writer would have it understood that the subject is here considered solely from a local standpoint,† he fully feels that even within these limitations the sum of recorded observations at command is an insufficient basis for an intelligent treatment of many points. The presentation, therefore, of suggestions which the future may develop, while adding something to our present knowledge, is all that can at present be attempted. Let us remember that speculation and theory are not always mischievous or futile. At the threshold of an unstudied subject they have often the effect of stimulating investigation and giving direction to research. No apology is needed for certain somewhat speculative portions of the present paper if any such result is accomplished.

One entering upon the study of the singing of birds must soon recognize as an obvious fact that many birds have two distinct seasons of song, separated by a greater or less interval of silence. The first of these song-periods is that of the spring migration and the breeding season; the other a period variable as to time and duration with different species, but which may in general be said to succeed a time of silence which follows the breeding season, with some species continuing through their return migration from their breeding grounds. The greatest variation, however, with respect to its separation from the first song-period, the constancy, the extent and the time of the latter song-period, is exhibited among its exponents, as will be shown beyond.

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* Read before the Linnæan Society of New York, February 24, 1883. Published by permission of the Council.

† The observations on which the present contribution is based were conducted in the vicinity of Riverdale on the Hudson, New York City, to which locality all remarks except under contrary statement apply.

Some of our summer resident birds cease to sing at the close of or soon after their breeding season, and are silent during the remainder of their stay. Others discontinue song with domestic duties, but resume it before their departure after a longer or shorter period of more or less complete silence. Still others continue uninterruptedly in song during the greater part of their sojourn. This much having been said, it becomes proper to inquire into the causes which produce these results.

Perhaps as a factor in sexual selection we perceive the chief office of song in the avian economy: its main purpose is thus subserved during the mating and breeding season. Thereafter song is not longer a necessity, and the inference would be natural that, after the enervating duties of this period, the vocal organs would be allowed to rest. But disuse of the vocal organs does not result from this cause. It is even true that those species whose family cares are lightest, that rear a single brood only, first become silent; those that bring up two or even three families being least ready to abandon song. Apart from the dominating influence of the breeding season, that which most directly governs the singing-times of birds, and, I may add in passing, their seasonal movements, their breeding seasons and the number of broods reared, is undoubtedly their periodical loss and renewal of plumage.*

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* The relation between the moult and the migration of birds is a subject demanding the most careful study. It is indeed surprising that the connection between such obviously related phenomena has not long since been worked out. While it is true that many birds enter upon their migration with the growth of feathers still active in parts of their plumage, it is also undoubtedly true, as a general fact, that the moulting season is a time of inactivity and thus adverse to extended migration. Many birds migrate just before or shortly after the new plumage has completed its growth. Hence

In many cases the moulting periods of our Song-birds correspond more or less closely with periods of silence, voice being resumed with the renewal of plumage. The general statement may therefore be made, that birds are predisposed towards silence during the height of the moult. Though this fact may be by many regarded as one not requiring demonstration, it is by no means without exceptions. In the earlier and later stages of the moult the vigor of birds in general seems little impaired. Not only do many species enter on their migration while yet the moult is in progress or before the complete maturity of their renewed plumage, but birds may be found sitting upon their eggs with evident indications of activity in the growth of feathers. Still we must regard it as a general fact that singing and moulting are in some degree complementary.

But the loss and renewal of plumage in its resulting tendency of interference with the use of the vocal organs may be superseded by a counter influence which at times arises in the special seasonal development of the sexual organs. Thus birds in the spring are sometimes in song before their new plumage has attained its full growth, and it is probable that this is normally the case with many species. But cases of birds in full voice while undergoing their second semi-annual moult, when the sexual functions are inactive, appear to be uncommon, perhaps exceptional, unless the growth of plumage be almost completed.*

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it would seem to follow that the times of migration are in many cases regulated if not determined by the times of the moult. As the times of this process are variable with different species, it seems highly probable that a study of the subject would shed light on the causes of the different times of migration of allied species of birds. It is clear that the periodical mutations of the plumage of birds is involved directly or indirectly with much in their lives that we now but imperfectly understand--with their migrations, their distribution, their breeding habits. And it would not be going too far to claim for the moult a direct bearing on classification, for different species, and in all probability different families and genera, moult in different ways. The subject cannot be followed further here, but it is safe to assume that its careful study would lead to important and unexpected results. It may not be untimely here to suggest that in recording the condition of the moult or renewal of the plumage of birds great care must be exercised to distinguish between the sexes and ages of specimens examined. Often adult and juvenile individuals of a species will at the same time be found to present great differences in the relative maturity of their plumage, and, in less degree, males and females, as well as individuals of the same sex, will be found to differ.

* As bearing upon this topic I learn from Mr. C. F. Holden of New York, the well-known bird-fancier and importer, that while many Canaries become disinclined to sing, or even entirely silent, during the moult, some of the finer breeds sing uninterruptedly during that period

There are facts which seems to indicate that vocal disability often accompanies the moult, thus imposing silence until power of voice is gradually regained with the renewal of plumage.

In its origin and use, song is undoubtedly to be classed as a sexual character, in the same category as the adornments of the plumage in the male bird. (It is not necessary here to consider the singing of the female of certain species, this being entirely secondary to the present consideration.) Taking this view of the song we can understand why with those species, the males of which undergo great semi-annual mutations in the color of their plumage, — in the fall assuming the plainer garb of the female, — have no second song period: attired like the females, they are, like them, songless. May we construe this fact as evidence that the silence of many birds in the autumn is not voluntary, but that the vocal function is lost with the other attributes of masculinity? It does not necessarily follow that male song birds are always songless when not attired in their nuptial costume. The males of some species while in immature plumage are equally melodious with the adults in full dress. But while I have never been able to study satisfactorily many cases bearing clearly on this point, I have observed in several instances that in apparently immature males which sang, the plumage, though that of the young bird, exceeded in color that of the female of their species. In other cases it seemed probable that sexual maturity had anticipated the phase of most highly developed plumage. The Purple Finch sings while attired in the plumage usually regarded as characteristic of the young male, but I have heard no songs from birds in this condition of plumage which did not show evident immaturity of expression. The female of this species also has been been said to sing. With species the females of which sing, we should expect the young male to have equal use of its voice.

But in these considerations we must not forget that our knowledge of the real significance of color-changes of plumage is but meagre, and that color-phases of plumage are not in all cases true to their usual indications in regard to the age of their subjects. I do not wish to be understood as stating that the males of all of our birds which in the autumn change to the plainer colors of their mates invariably cease to sing. There are at present no data upon which so general a statement can be based, and were the necessary data at hand not improbably exceptions would be shown to occur. My statement is merely that, as a rule, so far as my own observation has extended, loss of voice in the males of our brilliantly plumaged birds always accompanies loss of other sexual characteristics at the second moult.

It is strictly true with species of such decided change of plumage with the second annual moult as the Scarlet Tanager, the Goldfinch, the Bobolink, and those of our Warblers which undergo material change of plumage.

But many common birds, which show no evident change of plumage with the second moult, have no second song-period. In discussing this class we must remember that it is not always a simple matter to ascertain whether a bird belongs more properly with those species which experience insignificant seasonal changes of plumage or with the reverse class. Among species of obscure plumage it is difficult to decide what constitutes a decided change. We can conceive how slight changes in certain groups of birds may be equivalent to much greater variation in other groups; but the relative value of the changes which we may observe is unknown to us. But in that class of singing birds we are now considering,—that class in which the males, without assuming the plainer garb of their mates, yet become silent after the breeding season, — the periods of silence and song of all, perhaps, may be accounted for. Let us first discuss summer resident species. Some of these which have no second song-period with us are our earliest departing migrants. Obviously among these there is no opportunity to observe a second song-period in their summer home, even if such takes place.

Another class of summer residents continue uninterruptedly in song during the greater part of their stay, thus appearing to have no second song-period. But there is little doubt that a period of silence is passed by each individual of such species. For though among its members as a body there may be no actual interruption of singing from spring to fall, a time of minimum vocal vigor seems always to follow the breeding season and to be partially recovered from at a later period. In the case of the species taken as a whole the silent period is obscured by the variation in the singing time of individuals. In other words, there is a sufficient difference in the time of the beginning and cessation of song among the component individuals to bridge with isolated songs the true silent period of the species. Hence the almost continuous singing through the summer of the Red-eyed Vireo, the Song Sparrow, the Baltimore Oriole, the Phœbe Bird, and the Great-crested Flycatcher. In all of these, perhaps, the silent period actually occurs with the species as a whole in certain years when conditions uncongenial to song prevail; but the records of several seasons taken collectively disguise any such break in the singing times which may have occurred.

We must now consider these species which, without exhibiting any marked seasonal change of plumage, are yet silent during a more or less protracted stay after the close of the first song-period.

Let us first take up some matters preliminary to the consideration of this class.

It is probable that extreme fatness engenders a constitutional predisposition towards silence. The majority of birds arriving on the spring migration possess little or no obvious adipose tissue. I have likewise found this to be the case with birds that are in full song in midsummer. If we examine a large number of spring birds some exceptions will be found, though there will be comparatively few, and very few that can be considered extreme exceptions. In the fall, however, the contrary will be found to be the case. At this season the majority of birds are more or less fat and many excessively so, fat often beginning to accumulate before the completion of the moult. If, then, excessive fatness tends to induce silence, we have in this fact a reason for the absence of a second song-period with many species: singing is first checked by the moult, and the adipose condition directly succeeding suppresses all inclination to resume it. In many birds which remain with us long after the second moult, without decided change of plumage, yet with no second period of song, we find illustrations of this sequence of physiological conditions.

A striking instance, afforded by the Red-eyed Vireo, may be cited. This Vireo is one of our most persistent songsters, and forms one of the exceptions to the rule that birds are not generally in song when the moult is in active progress. It is in full moult in August, in which month a silent period, although indicated, is obscured by individual variation in the time of discontinuance and resumption of song. In the month of August this species may be found in an active stage of moult. Though its vocal vigor is at low ebb during this time, especially in sultry seasons, song is not discontinued until the moult is completed and fat has begun to develop. This species thus illustrates decadence of vocal vigor during activity of the moult, and complete cessation of song with the adipose condition supervening. Other similar evidence could also be adduced.

But I do not forget that our evidence is fragmentary and uncertain. Whether disuse of the vocal organs directly results from the physical condition with which we find it associated, or from some collateral cause, we are ignorant. But it is certainly easy to understand how excessive fatness might result in reduced emotional sensibility or indisposition to vocal effort, or how a development of adipose tissue about the vocal organs might interfere with their free action. Bird-fanciers recognize the injurious effect of over-feeding on the vocal power of cage birds.

Song, as an immediate result, appears to be the outcome of emotion or excitement, and reaches its highest expression, with its highest use, during the mental and physical excitement of the breeding season. Every one who has been an observer of birds must believe them to possess high cerebral sensibility. The influence of almost impalpable meteorological changes on the singing of birds cannot fail to have been remarked, and the effect of decided weather changes must often have been apparent even to the most unobservant. While with many species the habit of supplementary song, if I may so term the habit of singing in the autumn, is firmly established, with others it is inconstant and greatly dependent on favorable conditions of weather. The supplementary song-period is thus often of uncertain duration, and it even happens with certain species that it is confined to a few days, or, as it sometimes appears, even to one.

Instances of the effect of mental excitement on the singing of birds are constantly before us. Birds suddenly disturbed or startled from their retreats, or abruptly ceasing from a headlong chase after or flight from a companion, often break forth with sudden song, sometimes even at a time when the species is ordinarily silent. So, too, the excited repetition of an alarm note not infrequently leads up to a sudden burst of song.

This brings us to the consideration of a habit possessed by some of our birds of singing while on the wing. With some species singing during flight is but an ordinary occurrence, as in the case of the Bobolink, which continually overflows with melody during its gambols in the May meadows; or the Orchard Oriole, which passes with uninterrupted song from tree to tree. With others the indulgence of the habit is less matter-of-fact, and singing on the wing is the accompaniment only of special flights. But the habit reaches a still greater specialization. Among those species with which it is confined to the season of courtship it is variously exhibited as a general habit, as a special habit, and again as a reserve habit apparently set apart for particular and infrequent indulgence. As an instance of a species with which the habit is a general one, the Yellow-breasted Chat may be cited. Where these birds abound their ridiculous acrobatic song-flights may be daily witnessed. With the Purple Finch, though the habit may also be regarded as a general one, it is much less frequent. In the Golden-crowned Thrush we discover a great specialization of the song-flight, the vocalization accompanying the flight being of a high order and utterly different from the ordinary song of the species. Nor it is commonly to be heard, for either the ability to produce it is confined to favored individuals, or it is only indulged on special occasions, or under an extreme degree of mental excitement. The cause of these song-flights, and of the extravagant demeanor with which they are conducted by some species, can be attributed only to some unusual state of mental excitement, which wields an irresistible power over its subject.

Compared with ordinary vocalization, singing under these circumstances seems to represent a higher vocal effort, as it certainly does a higher vocal accomplishment. Hence it is not suprising that these unusual demonstrations should occur under the intense sexual excitement of the breeding season, but why with some species they should be continued into the autumn, or even be deferred until the breeding season is passed, seems inexplicable. Yet with a number of our birds this is the case. So far as my own observation has extended, it is true of all those species with which aerial song-flight appears to be only occasional or exceptional. And thus in several cases where I have observed but a single instance of song-flight in a species, my record of the performance dates in the fall. The Indigo Bird and the Swamp Sparrow may be cited as examples. The Maryland Yellow-throat is a species with which aerial song-flight is not an uncommon habit, but appears never to belong to the early spring. Not until the summer, when we may suppose the emotions of the nuptial season to have waned, may we commonly witness the song-flights of this species and hear the accompanying volubility of utterance so different from the usual song.

In many cases some particular bodily motion or set of motions accompanies the effort of song. It may not be irrelevant here to query whether this combined vocal and bodily activity, so often observable, is to be regarded as resulting from an intensity of emotion which fails to find satisfactory relief through a single source of expression, or whether song be ever from physiological necessity dependent on muscular action additional to the activity of the vocal organs. We often observe during a song-flight a tendency to greater bodily action than is required for simple flight. Indeed, I have seen such motions so marked in the case of the Orchard Oriole as strongly to suggest the Chat. The same may be said of the Maryland Yellow-throat. But undoubtedly the effort of singing on the wing, by disturbing the natural motion of flight and retarding the progress of the bird through the air, has much to do with the unusual demeanor of most species during the song-flight. The song-flight certainly argues some forcible mental process in the actor. That birds are subject to sudden and intense subjective motions, we cannot doubt.

Articulate or vocal variation in birds may be of five principal kinds. These may be designated as geographical, seasonal, individual, variation with age, and abnormal. As the present paper is intended to treat primarily of the times and seasons of song, each of these kinds of variation will be only briefly touched upon here as connected with and partially introductory to the general subject.

Of *Geographical variation* little can be said. Up to the present time it has hardly been formally recognized as in any way general, and though well illustrated in the case of certain birds, our knowledge of it is slight. It is, however, probably more general than has been supposed, and it is not by any means improbable that ultimately it may be found susceptible of formulation in special laws, as physical variation has been.

Perhaps the best exponents of vocal variation with longitude are our forms of *Sturnella*. While there appears to be no such conspicuous instance of vocal variation with latitude, such variation has been observed and recorded in the case of a few species.

In the passage of certain species on their spring migration, there sometimes appears to be a difference observable between the songs of the earlier and later comers. As the first comers of many birds undoubtedly represent the more northerly breeding individuals of their species, the fact above cited may be of significance in the question of geographical variation in song.

Seasonal variation in song.—In several species there is a difference, more or less decided, between the song of the breeding season and that of the later song-period. How far this may result from actual change of song with adults from spring to fall, or how far from the efforts of juvenile birds in the later season is uncertain. Certain it is, however, that the adults of some species show a variation in song from one season to another. This variation is not always that which would naturally result from a reduced vocal impulse, which we might expect to follow the breeding season, and to forerun decedent song. While in some species variation in song from spring to fall is doubtless to be attributed to this cause, with others the song of the later season is of equal tone with that of the earlier, and may even be more prolonged and much more varied, if not of greater power. These facts will be illustrated beyond.

Vocal variation with age.—Of this class of variation I have little to say, having never myself observed an unequivocal case of the singing of a wild bird of the year. We find the young male of the Orchard Oriole in full voice in its second year while yet showing in its plumage plain evidence of its immaturity. In seeming contrast to this instance of the song of the adult being attained before the adult plumage, I have found the male Purple Finch in the spring in the brown plumage of the female with a song decidedly inferior to and otherwise different from that of the mature bird. As an instance of the singing of the young of one of our native birds I may cite the fact of the young of the Mocking Bird singing at the age of a few months while yet in the speckled plumage. Mr. C. F. Holden assures me that this is the case, at least when the species is kept in confinement. Mr. Holden also tells me that the song of the young differs from that of the adult much in the same manner that the voice of a child differs from that of a grown person. In the summer the Redstart seems to possess two types of song differing in tone and accent, and observation goes to show that the more feeble performances are those of immature birds.

Occasionally singularly aberrant songs are heard from the common Robin, in which the mellow rolling quality is entirely lost. The notes are abrupt and separated, often with distinct rests, and sometimes terminate with a vibratory sound suggestive of the vibrant quality characteristic of the songs of our Wood Thrushes. I have not been able to ascertain if these sounds regularly proceeded from immature throats, but if this be the fact it probably affords an instance of an ancestral character of voice retained by the immature progeny of descendants.

Individual vocal variation.— Undoubtedly it can be said that in song, as in plumage, no two birds are precisely alike. But the extreme difficulty, or often impossibility, of comparing the songs of birds except through an untrustworthy mental agent, is a serious obstacle in the study of this branch of the subject. Nevertheless the statement that the songs of birds of the same species are subject to extreme variation, and that probably no two songs of different individuals of a species are identical, can be accepted with little or no violence to the truth. With the members of some species phonetic variation is especially evident. At the season when the Song Sparrow is in full voice, I can never walk with attention directed to the songs of these birds along the way without being forcibly struck with the marked variation shown in movement, tone, accent and other qualities either separately or in conjunction. The same thing is conspicuously true of many birds, as the Robin, the Field Sparrow, the Rose-breasted Grosbeak, and others which occur in sufficient numbers to afford ample scope for observation. But even the same individual will show considerable variation in its song at different times; indeed not a few of our birds possess two or more distinct songs.

We are slow to give birds credit for the capacity of vocal expression which many of them possess. Writing now in the autumn, with no opportunity for refreshing my memory, I can recall over half a dozen distinct utterances of the common Robin, and as many of the Song Sparrow. It is probable that they have many more, and that birds possess a greater power of oral communication than we ever suspect.

Abnormal vocal variation.— This kind of variation, probably caused by imperfections of development or injuries either of the vocal apparatus or adjacent structures, is perhaps not always clearly definable from the preceding. Very extreme cases of individual variation will probably fall under this head. With the Song Sparrow I have observed several instances of abnormal variation in song, in one case the song being strikingly like that of the little Field Sparrow.

A case of abnormal variation in song of another species, the Red-shouldered Blackbird, may be here instanced. The song of this species is a characteristic and usually very constant one, especially when we take into consideration the number of birds that are commonly found singing together. Their song is thus written by Nuttall: "*Kong-quer-ree.*" I have, however, heard the first note doubled, and in one case it was the only note heard, the remainder of the song being either so faintly uttered as to be inaudible or entirely omitted. The low guttural quality of the single note, and its measured repetition, gave it a noticeably corvine character.

In treating of the songs of birds we must not confine ourselves too narrowly to the class Oscines or true Singing Birds. Birds of lower grade, which are denied the power of true song, are usually endowed with a capability of producing either orally, through physical action or mechanically, sounds as characteristic as the songs of their more gifted relations. Thus the hooting of the Owl, the drumming of the Grouse, the hammering of the Woodpecker, must be regarded as the equivalents of song.

(*To be continued.*)

BIRD MIGRATION.

At the first congress of the American Ornithologists' Union, held in New York City, September 26–28, 1883, a Committee on the Migration of Birds was appointed. It is the purpose of this Committee to investigate in all its bearings, and to the fullest extent possible, the subject of the migration of birds in the United States and British North America. The work will not be limited to the accumulation of records of the times of arrival and departure of the different species, but will embrace the collection of all data that may aid in determining the causes which influence the progress of migration from season to season. For example, severe storms, gales of wind, protracted periods of unusually high or low temperature (for the locality and time of the year) are among the atmospheric conditions that are known to exert marked effects upon the movements of birds. The opening of the leaves and the flowering of certain plants, with the correlative appearance of a multitude of insects, are also among the factors that have to do with the abundance of many species. Hence the careful registration of certain meteorological phenomena, and of the state of advancing vegetation from day to day, will constitute prominent items in the record books of the observer.

For the purpose of rendering the result of the season's work as full and valuable as possible, the Committee earnestly solicits the co-operation of every ornithologist, field-collector, sportsman, and observer of nature in North America. Indeed, a large corps of observers is absolutely essential to the success of the undertaking, and the Committee hopes to receive substantial aid from many who profess no knowledge of ornithology. Efficient service can be rendered by those familiar with only our commonest birds, and the Committee will gladly accept data concerning any of the following well-known species:—

Robin.
Mockingbird.
Catbird.
Brown Thrasher.
Bluebird.
House Wren.
Yellow-rumped Warbler; Myrtlebird.
Yellow-breasted Chat.
Redstart.
Maryland Yellow-throat.
Cedarbird; Waxwing.
Purple Martin.
Barn Swallow (fork-tailed).
Violet-green Swallow.
Scarlet Tanager.
Pine Grosbeak; Bullfinch.
Purple Finch.
Red-poll Linnet.
Yellowbird; Thistlebird.
Snow Bunting.
Eastern Chewink: Towhee.
Junco; Slate-colored Snowbird.
Cardinal Redbird.
Rose-breasted Grosbeak.
Indigo-bird.
Bobolink; Ricebird.
Cowbird.
Yellow-headed Blackbird.
Red-shouldered Blackbird.
Meadow Lark.
Oriole.
Crow Blackbird.
Horned Lark; Shore Lark.
Kingbird; Bee Martin.
Pewee; Phœbe.
Eastern Hummingbird.
Eastern Chimney Swift.
Whippoorwill.*
Nighthawk.†
Kingfisher.
Fish Hawk.
Wild Pigeon.

Also any of the Waders, "Shore-birds," and Ducks.

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* When first heard. † When first seen.

PLAN OF THE WORK.

For convenience in collecting and arranging the enormous mass of material which will be accumulated by the joint labors of this army of field workers, it has been deemed advisable to divide the vast expanse of territory embraced in the United States and British North America into thirteen Districts, each of which will be placed under the immediate direction of a competent Superintendent. The Districts, with their respective Superintendents, are:—

ALASKA, Supt., John Murdoch, Smithsonian Inst., Washington, D. C.

NORTH-WEST TERRITORIES, Supt., Ernest E. T. Seton, Assinaboia, *via* Carberry, Manitoba.

NEWFOUNDLAND, Supt., James P. Howley, St. John's, Newfoundland.

BRITISH COLUMBIA, Supt., (not yet determined).

MANITOBA, Supt., Prof. W. W. Cooke, Caddo, Indian Territory.

CANADA, Supt., Montague Chamberlain, St. John, New Brunswick.

ATLANTIC SEABOARD (Lighthouses and Lightships from Canada to the Gulf of Mexico), Supt., (not yet determined).

NEW ENGLAND, Supt., John H. Sage, Portland, Conn.

ATLANTIC DISTRICT (New York, Pennsylvania, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina), Supt., Dr. A. K. Fisher, Sing Sing, New York.

MIDDLE-EASTERN DISTRICT (Southern Michigan, Indiana, Ohio, West Virginia, Kentucky and Tennessee east of the Tennessee River, Alabama, Georgia, Florida), Supt., Dr. J. M. Wheaton, Columbus, Ohio.

MISSISSIPPI VALLEY (Dakota, Minnesota, Wisconsin, Nebraska, Iowa, Illinois, Kansas, Missouri, Indian Territory, Arkansas, the small portions of Kentucky and Tennessee west of the Tennessee River, Texas, Louisiana, Mississippi), Supt., Prof. W. W. Cooke, Caddo, Indian Territory.

ROCKY MOUNTAIN DISTRICT (Idaho, Montana, Wyoming, Utah, Colorado, Arizona, New Mexico), Supt., Dr. Edgar A. Mearns.

PACIFIC DISTRICT (Washington, Oregon, California, Nevada), Supt., L. Belding, Stockton, California.

The home of each observer is called a Station, and is recorded by number upon the books of the Committee. The Committee particularly requests that all persons who read this circular, and are willing to aid in the work, will *immediately* communicate with the Superintendents of their respective Districts. Those residing in Districts whose Superintendents have not as yet been named may address the Chairman.

It is the duty of each Superintendent to exert himself to the utmost to increase the number of observers in his District; to answer the questions they may put to him concerning the details of the work, etc.; to collect at frequent intervals the product of their labors; to ascertain from these data the whereabouts of certain species in winter, and the times of leaving their winter homes; to determine if possible the number and extent of the chief avenues of migration within the limits of his District, and the average rate of speed at which the different species travel; to locate the *breeding areas* of the summer residents; and, finally, to submit the result of the season's work to the Chairman of the Committee. The Chairman shall, in turn, arrange, condense, and systematize the material received from the Superintendents of the several Districts, and shall present to the Union the fruits of the joint labors of all the collaborators, together with any comments, deductions or generalizations he may have made upon the same.

INSTRUCTIONS TO COLLABORATORS.

The data collected may conveniently be arranged in three general classes: *a.* Ornithological Phenomena. *b.* Meteorological Phenomena. *c.* Contemporary and Correlative Phenomena.

(*a*) *Ornithological Phenomena.*

Each observer is requested to prepare, at his earliest convenience, a complete list of the birds known to occur in the vicinity of his Station, and to indicate (by the abbreviations enclosed in parentheses) to which of the following five categories each species pertains:—

1. *Permanent Residents*, or those that are found regularly throughout the entire year (R).

2. *Winter Visitants*, or those that occur only during the winter season, passing north in the spring (WV).

3. *Transient Visitants*, or those that occur only during the migrations, in spring and fall (TV).

4. *Summer Residents*, or those that are known to breed, but which depart southward before winter (SR).

5. *Accidental Visitants*, or stragglers from remote districts (AV).

It is desirable also to indicate the relative abundance of the different species, the terms to be employed for this purpose being: *Abundant*, *Common*, *Tolerably Common*, *Rare*.

In many species the males arrive in advance of the females, hence it is important to note the sex of the first comers, and the date at which the opposite sex is first seen.

In recording arrivals and departures it is highly important to distinguish between the movements of the great bulk of the species and those of the forerunners or advance guard. For this purpose two dates should be recorded for the incoming, and two for the outgoing of every non-resident species, as follows:—

1. The first appearance of the species (F).
2. The arrival of the bulk (BA).
3. The departure of the bulk (BD).
4. The last individual seen (L).

In addition to the above, which may be regarded as *essential data*, there are many other noteworthy details that bear more or less directly upon the complicated problems involved in the study of migration. Among such may be mentioned the bodily condition of the bird (whether fat or lean), the moult, and the periods of song. The time of mating, when observed, should always be recorded.

(*b*) *Meteorological Phenomena.*

Extended meteorological data are not required, though the observer would derive material assistance from a systematic weather record. The Committee desires information upon:—

1. The direction and force of the wind.
2. The direction, character and duration of storms.
3. The general conditions of the atmosphere, including rainfall.
4. The succession of marked warm and cold waves, including a record of all sudden changes of temperature.

(*c*) *Contemporary and Correlative Phenomena.*

The Committee desires that the data under this head be as full and complete as possible, and requests exact information upon:

1. The date at which the first toad is seen.
2. The date at which the first frog is heard.
3. The date at which the first tree-toad or "peeper" is heard.
4. The dates at which certain mammals and reptiles enter upon and emerge from the state of hibernation.

5. The dates at which various insects are first seen.
6. The dates of the flowering of various plants.
7. The dates of the leafing and falling of the leaves of various trees and shrubs.
8. The dates of the breaking up and disappearance of the ice in rivers and lakes in spring, and of the freezing over of the same in the fall.

C. Hart Merriam,
Chairman of Committee on Migration,
Locust Grove, Lewis County,
New York.

RECENT LITERATURE.

Nelson's Birds of Bering Sea and the Arctic Ocean.*—The late Mr. G. R. Gray, who had a habit of literal exactitude in handling the names of birds, might have reaped a fine crop of new generic and specific terms from this treatise, in which many of the scientific designations are misprinted in bold-faced type, not all of these being accounted for in the list of errata which constitutes page 56*c*. It is easy to see that a page of matter relating to the Spoon-billed Sandpiper divorces two species of *Actodromas* from the other two treated; but by the erratum leaf alone can we discover that the matter headed *Arquatella maritima* relates to a bird "lately described by Mr. Ridgway";

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* Contained in: Cruise | of the | Revenue-steamer | Corwin | in | Alaska and the N. W. Arctic Ocean | in | 1881. | — | Notes and Memoranda: Medical and Anthropological; | Botanical; Ornithological. | — | Washington: | Government Printing Office. | 1883. 1 vol. 4to, pp. 1—56, 56 *a—f*, 57—120, with 12 pll. not numbered and some not lettered, and various woodcc. in text. The ornithological matter is half-titled | — | Birds of Bering Sea and the Arctic Ocean. | By | E. W. Nelson. | — | 55 | It occupies pp. 55, 56, 56*a—f*, 57—118, with 4 colored plates.

In mechanical execution this piece of book-making is a miraculous botch. One familiar with the possibilities of political printing has still something to learn from inspection of this realization. In the copy examined, for example, the title-page is upside down, and makes the fifth leaf of the book, preceded by a bastard title-page and two pages of text, likewise upside down, and faced by a plate of a fish which belongs to an ichthyological article at the end of the book—though no hint of ichthyology is given in the statement of 'Notes and memoranda' which the title duly sets forth, while the broken pagination and the entirely unnumbered and partly unlettered plates prepare us for the typographical eccentricities above noted.

i. e., to *A. couesi*. And so on. It is a pity that so valuable and interesting a treatise as this of Mr. Nelson's should not have been more carefully printed.

The author accompanied the 'Corwin' on her cruise in search of the 'Jeannette' during the latter part of the summer of 1881. We quote:—

"On June 21, we left Saint Michaels and crossed Bering Sea to Saint Lawrence Island and Plover Bay on the Siberian coast; thence along the coast and through the Straits and northwest in the Arctic to the vicinity of Nordenskiöld's winter quarters....Thence we returned again to Saint Lawrence Island and to Saint Michaels. After remaining here a short time, we returned to the Arctic, touching at all the islands in Bering Straits; and during the remainder of the summer visited in succession the entire Alaskan coast-line from Bering Straits to Point Barrow, including Kotzebue Sound, and on the Siberian shore from the Straits to North Cape. We also cruised along the edge of the ice-pack, landing upon Herald and Wrangel Islands. On Sept. 14, we passed through Bering Straits bound south; and after remaining sometime at Ounalaska in the Aleutian Islands,.... we left, October 4, homeward bound.

"The observations upon which the present paper is based were made both during the cruise just detailed, and in addition are the results of observations made by myself during over four years' residence at Saint Michaels, and explorations carried on in various directions from that point. In addition, I have used information obtained from various reports which have been issued regarding the region in question....

"The species given for the Alaska coast and the islands of Bering Sea are almost, or quite, a complete list of the birds found there; but the species mentioned upon the Siberian coast form only a small quota of those occurring in that region."

After some pages concisely descriptive of the region and its avifauna, the author proceeds to treat, in more or less detail, no fewer than 192 species of birds, North American with few exceptions. The interesting notes are chiefly those of a field naturalist, the technicalities of the subject being at a minimum. The determination of the species, we presume, and the terminology employed, rest upon excellent authority.

The nearness of America to Asia in this latitude, the narrowness between meridians in Arctic regions, and the homogeneousness of circumpolar faunæ, all tend to blend the birds of the two continents. Forty miles of Arctic ocean is nothing in the distribution of birds, and in fact two faunæ inosculate here. This seems to be brought about in two ways, one of which is the actual interchange of types of birds characteristic of the 'Old' and 'New World' respectively. As our knowledge of the bird fauna of North Alaska has matured, we have lengthened our North American list of such types; and quite possibly, when the Siberian fauna is as well known, an Asiatic list may be the gainer by sundry acquisitions from our side. Among the Old World forms found in Alaska we may mention the following: *Phylloscopus borealis*, *Parus cinctus*, *Budytes flavus*, *Anthus pratensis*, *Motacilla ocularis*, *Pyrrhula cassini*. All of these oscine Passeres are treated by Mr. Nelson, excepting the last one. The *Parus* is rated as the var. *grisescens* of Sharp and Dresser, said to be "the much grayer and somewhat larger Eastern Siberian form," occurring in Alaska. If this determination holds, "*Parus cinctus*" of the American list becomes *P. cinctus grisescens*.[*] The *Motacilla ocularis*, well known from Plover Bay, Siberia, and lately found in California, is stated to have been observed by Mr. L. M. Turner in the spring of 1881 on Atkha, the western-most island of the Aleutian chain. The Asiatic *Lanius cristatus*, though not yet to be added to our fauna, comes near it, a specimen having been found at Wrangel Island. The Asiatic *Sylvia eversmanni* is in similar case, having been found by Mr. Nelson northeast of the Straits.

Among water birds, as might be expected, Alaska has thus far yielded a number of Old World forms. The Asiatic Golden Plover, *Charadrius fulvus* of authors, was recorded some years ago. Mr. Nelson now speaks of the Mongolian Plover, *Ægialites mongolicus*, saying that "there is a single record of this bird's occurrence in Alaska." "Two specimens were procured on Choris Peninsula, in Kotzebue sound, during the summer of 1849."[†] This bird has thus far escaped inclusion in the North American lists. The Sharp-tailed Sandpiper, *Actodromas acuminata*, an Asiatic species, is an interesting addition to our Fauna lately made by Mr. Nelson at Saint Michael's, Alaska, where it is said to be "abundant" during the autumn. Decidedly the most interesting of this group, the Spoon-billed Sandpiper, *Eurynorhynchus pygmæus*, though only obtained by Mr. Nelson on the Siberian side, is now to be added unquestionably to the American list.[‡] Of this extremely rare and curious bird, of which perhaps only about 30, mostly Indian, specimens are known to exist, Mr Nelson was so fortunate as to secure a fine adult female, in breeding dress (June 26), making the second known in this plumage — that figured in the 'Ibis,' as below cited, having remained until now unique. As Mr. Harting has surmised, the breeding place of the species has proven to be the northeast Arctic shore of Asia, whence it is but a step to reach the opposite continent. Mr. Nelson gives a full description of the plumages, and also figures his beautiful specimen. Such other Asiatic species as the Pacific

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[*] We have long had stereotyped in the plates of the new edition of the 'Key', under name of *Parus hudsonicus evura*, an Alaskan Tit, apparently before undescribed, resembling *P. hudsonicus*, but larger, with longer tail (nearly 3.00 inches) and apparently bearing the same relation to *hudsonicus* proper that *P. septentrionalis* does to *P. atricapillus*.

[†] See Harting, Ibis, 1870, p. 386; P. Z. S., 1871, p. 111.

[‡] It is recorded by Harting, P. Z. S., 1871, pp. 111, 114, from Choris Peninsula, the specimen said to have been procured there in 1849, and figured in the Ibis, 1869, p. 426, Pl. XII, being supposed to be the only one known to exist in summer plumage. The species was lately noted by Ridgway as occurring at Point Barrow, in Bull. U. S. Nat. Mus., No. 21, 1881, p. 85. Without reference to the earlier record here cited, we lately included it in our Check List, 1882, p. 130, with some hesitation, as we understood that the alleged Point Barrow occurrence was open to question. There seems, however, no reason to doubt the actual occurrence of the species on the American side, and it should take proper place now as a 'North American' bird.

Godwit. *Limosa uropygialis* of Gould, or *L. lapponica novæ-zealandiæ*, as Mr. Nelson gives it; the Wandering Tattler, *Heteroscelus incanus*; the Bristle-bellied Curlew, *Numenius taitiensis* (*N. femoralis* Peale), complete the list of Waders already known to reach our shores and included by Mr. Nelson in the present connection.

The other of the two methods, above alluded to, by which the Asiatic and the American faunæ come together is a curious one, if it can be fully substantiated. Though, as is well known, the *Eastern* North American fauna reaches the Pacific in the latitudes of Alaska, yet there seems to be in that region an approach of some American forms to the characters of their Asiatic or European conspecies. Perhaps the case could be more rigorously defined as the tendency to a single *circumpolar* type of conspecies which further south become better differentiated in any meridian; and very likely some forms now quoted as peculiarly Alaskan, in so far as North America is concerned, may prove characteristic rather of our whole Arctic coast. The case seems to be best marked among Birds of Prey. According to what we presume to be Mr. Ridgway's indentifications, Mr. Nelson's article gives us, for example, as Alaskan, *Ulula cinerea* and *Ulula cinerea lapponica; Nyctale tengmalmi* and *Nyctale tengmalmi richardsoni; Surnia funerea* and *Surnia funerea ulula; Hierofalco gyrfalco candicans* and *Hierofalco gyrfalco sacer;* with two forms of Peregrines, *Falco peregrinus nævius*, and *F. peregrinus pealii.* Waiving what might be said against the distinctness of any or all of these related forms, and assuming subspecific characters to be established, have we in such cases as those of the three Owls the Old World forms actually reaching us from Asia? Or rather, have we not the American forms merging toward the pole into the common stock or stem of the species?

Excepting the three Owls mentioned, all the Alaskan Birds of Prey are noted by Mr. Nelson under the recognized names of supposed American forms, as *Pandion haliaëtus* "*carolinensis*"; *Archibuteo lagopus sancti-johannis; Aquila chrysaëtus* "*canadensis*," etc. A *Bubo virginianus* "*subarcticus*" is given among the Owls which occasionally visit the coast of Bering Sea.

The case of the Ptarmigan, as presented by Mr. Nelson, can be understood only by reference to the erratum leaf. One is *Lagopus albus*. Two others (Nos. 78 and 79) are to be treated as one, both being headed "*Lagopus rupestris*, Rock Ptarmigan." Thirdly comes No. 80, a certain "*Lagopus rupestris occidentalis*, Turner, Atkhan Ptarmigan." This is the same bird as that recently published by Mr. L. M. Turner (Proc. U. S. Nat. Mus., 1883, p. —), under the name of *Lagopus mutus atkhensis*, from Atkha Island, and the name *Lagopus rupestris occidentalis* is corrected among the errata. Mr. Turner's later determination is to call the new Ptarmigan *Lagopus mutus atkhensis*. We may add, however, that we have ourselves no faith whatever in the validity of the distinctions sought to be established by Mr. Turner among the Ptarmigans of the *mutus* or *rupestris* type, and we base this view in the main upon Mr. Turner's own statement of the case. He may be quite right, however, in reducing the North American *L. rupestris* to a subspecies of *L. mutus*. Mr. Nelson's fourth Ptarmigan is headed "*Lagopus alpinus*, Subalpine Ptarmigan," and is only reported as from Siberia, and upon Nordenskiöld's authority.

The Alaska Crane, noted as *Grus fraterculus* Cassin, is said to be extremely common on the coast of Norton Sound.

The Geese of the Canada Goose type are given as two, *Bernicla canadensis leucoparia* of Cassin, the smaller species, and *B. canadensis occidentalis* of Baird, a larger one from the west coast, noted by Baird in 1858, but overlooked for some years. We are inclined to endorse these determinations, some late examinations of our Geese having led us to believe that there are four recognizable though doubtless intergrading Geese of North America of the *canadensis* type — two larger and two smaller subspecies. The large *B. canadensis* proper has its western representative in *B. c. occidentalis*, as the small *B. c. hutchinsi* has its in *B. c. leucoparia.** The "strange and handsome" Emperor Goose (*Philacte canagica*) is given as occurring "in thousands" from the Yukon to Cape Vancouver. The European Widgeon (*Mareca penelope*), is given upon H. W. Elliott's record; the American also occurs. Steller's Eider (*Polysticta stelleri*) is noted as widely distributed over the coasts of Bering Sea, and as "extremely numerous" along the Aleutian chain in winter. *Lampronetta fischeri*, the Spectacled Eider, is said to be common and in some places abundant along the Alaskan shore of Bering Sea as far north as Norton Sound. Other Eiders and three Scoters also occur; the Velvet Scoter is given as *Melanetta fusca*.

Among the northern Gulls, the Ivory Gull, *Pagophila eburnea*, seems to be absent from Bering Sea, though reported by Nordenskiöld from Northeast Siberia. The Kittiwakes are *Rissa brevirostris*, and *R. tridactyla kotzebuii*. There is in this group the same typographical or other confusion noted for "*Lagopus rupestris*"; for two Gulls, according to the errata to be treated as one, are separately headed "*Larus cachinnans*" Pall. One (No. 152) is, however, Englished as the "Siberian Herring Gull," the other (No. 153) as "Pallas's Herring Gull"; while, to add to the confusion, another species (No. 151) is also called "Siberian Gull," but headed *Larus affinis* Reinh. *L. affinis* is said to be "numerous" at Plover Bay and elsewhere.

The rare and beautiful *Rhodostethia rosea* was taken in October, at Saint Michael's—a young of the year. Mention is also made of Nordenskiöld's Siberian adult of July 1, 1879, and the eight specimens procured by Mr. R. L. Newcomb, Naturalist of the 'Jeannette,' only three of which reached the Smithsonian, with Mr. Nelson's one making the only four specimens at present known to exist in any American collections.

Among the Petrels, the Slender-billed Fulmar, *Priocella tenuirostris* (Aud.) Ridg. (the *Thalassoica glacialoides* of some), is noted as Alaskan on the strength of Dall's Kotzebue Sound record. "A large dark Petrel repeatedly seen" on the way south from the Aleutians is supposed to have been *Cymochorea melæna* (Bp.) Coues. In the same course, for nearly a thousand miles "scarcely a day passed but a Petrel with the belly white" was seen; this is identified as *Fregetta grallaria*, not impossibly correctly, though the identification of most Petrels on the wing is too difficult to make this case satisfactory.

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* As described and figured by Cassin in 1855. Illust. B. Cal., etc., p. 272, pl. 45—but whether *leucoparia* of Brandt is another question.

Colymbus adamsi and *C. pacificus* are both given, as full species, and as occurring besides *C. torquatus* and *C. arcticus*.

Of *Alcidæ*, no fewer than fifteen representatives are given, *Synthliborhamphus wurmezusume* not included. The most important point in this connection is made in the rediscovery and perfect identification of *Brachyrhamphus kittlitzii* of Brandt, long a doubtful bird to American ornithologists, no specimen being known in this country. Mr. Nelson took one in breeding plumage in the spring of 1877, at Ounalaska, and afterward another was secured by Mr. Turner further west in the Aleutian chain. We have had the pleasure of handling Mr. Nelson's specimen, among many other of his birds kindly submitted to our inspection. It is certainly distinct from any Auk known to us when our monograph of the family was prepared, and we have no doubt of the accuracy of the identification which has been made. A colored plate will probably be published in another connection.

What general criticism we might pass upon this notable paper would add nothing to its value, and may be gathered from what has preceded. Obscure as it is upon some points, and much as it lacks of detailed information respecting the nesting and eggs of sundry notable Arctic birds, we cannot be too thankful for what we are here given of novelty, variety, and interest. We should not omit to add that it is illustrated with four colored plates, executed by Mr. Ridgway, representing *Motacilla ocularis*, *Lanius cristatus*, *Eurynorhynchus pygmæus*, and *Ciceronia pusilla*, all of life size and equally handsome. — E. C.

Cory's Beautiful and Curious Birds.—The recent appearance of Part VII completes the work, which consists of twenty plates, with accompanying text. Ten of the plates relate to as many species of Birds of Paradise; others include the Dodo, the Kiwi (*Apteryx australis*), the Lyre Bird, the Ruff, the Spotted Bower Bird, the Black-headed Plover or Crocodile Bird, and the Sacred Ibis, besides such American species as the Great Auk, the Labrador Duck, and the California Condor. The plates, in part drawn and lithographed by the well-known bird-artist Smidt, are superb illustrations of some of the most striking forms of bird-life. While not, from the nature of the subjects, of high scientific value, it is a work of art and natural history combined, and as such will be welcomed by lovers of birds and fine books. It is dedicated to Mr. J. A. Allen.—W. B.

Stejneger and Ridgway on Birds of the Commander Islands.—In a letter* dated Bering Island, September 30, 1882, addressed to Prof. Baird,

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* Contributions to the History of the Commander Islands. No. 1. Notes on the Natural History, including Descriptions of New Cetaceans. By Leonhard Stejneger. Proc. U. S. Nat. Mus., 1883, pp. 58-89. July 21, 1883.

Dr. Stejneger has given a preliminary account of his journey to and work at Bering Island, a locality of special interest as being the point where Steller, a century ago, passed some time in studying the fauna, and where he wrote his celebrated memoir on the northern sea cow (*Rhytina gigas*) and some of the large marine Carnivora of Bering Sea. It is therefore a locality of historic interest, as well as one offering great promise of remains of the extinct sea cow, many of which Dr. Stejneger obtained. At the date of his letter he had already devoted some months to the study of the natual history of the island, and his narrative relates to the fauna in general. Besides treating at length of some of the more interesting of the marine mammals, and including many notes on the invertebrates, the narrative contains much that relates to the birds. Special but unsuccessful search was made for the Great Northern Sea-Eagle (*Thalassaëtus pelagicus*) and Pallas's Cormorant (*Phalacrocorax perspicillatus*), there being "no hope whatever of getting a specimen of the latter, and very little of obtaining the former from Bering Island," their assigned habitat. The Cormorant, he states, appears to have been exterminated by the natives some thirty years ago. Dr. Stejneger, however, discovered there a large Sea-Eagle, which he believes must be new, and which Mr. Ridgway has since described (*Haliaëtus hypoleucus* Stejn. MS.) as such from specimens obtained by Stejneger. He also obtained several Passerine birds and Sandpipers believed by him to be new, and three of the former have now been described as new by Mr. Ridgway, as noted below.

Dr. Stejneger collected sixty-one species of birds from Bering Island, while ten others were observed. A number of additional species were obtained at Petropaulski. The ornithological matter in the present paper occupies pp. 65-74, besides passing mention of birds elsewhere. In addition to notes at some length on the more interesting species, considerable space is devoted to observations on the change of color in the Ptarmigans (*Lagopus albus*[*]), but no satisfactory solution of the problem is reached.

Mr. Ridgway,[†] upon examination of Dr. Stejneger's material, has described the following species as new: (1) *Haliaëtus hypoleucus* Stejn., MS.; (2) *Acrocephalus dybowskii* Stejn., MS.; (3) *Anorthura pallescens* Stejn., MS., of the size and proportions of *A. alascensis*, but "in coloration entirely different"; (4) *Hirundo saturata* Stejn., MS., "similar to *H. erythrogastra*, but much more richly colored beneath," etc. For a species described and doubtfully referred to *Anthus japonicus* Tem. and Schl., is proposed the name "*A stejnegeri*, sp. nov., if new."—J. A. A.

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[*] We are informed by the author that what is here called *Lagopus* "*albus*" turns out to be a form of *L. mutus*; while *Leucosticte* "*brunneinucha*" (p. 71) is a slip of the pen for *L. griseinucha*.

[†] Descriptions of some Birds supposed to be undescribed, from the Commander Islands and Petropaulovski, collected by Dr. Leonhard Stejneger, U. S. Signal Service. Proc. U. S. Nat. Mus., 1883, pp. 90-96. July 21, 1883.

Ridgway on New Species of American Birds. — Mr. Ridgway separates as a new subspecies the Warbler from Santa Lucia, W. I.,* hitherto known as *Dendrœca adelaidæ*, under the name *Dendrœca adelaidæ delicata*, the Santa Lucia form differing quite markedly in coloration from Porto Rico examples, on which the species was originally based. He also describes a supposed new Plover (*Ægialites albidipectus*, sp. nov.) based on a single example from Chili, † and a new Petrel (*Œstrelata fisheri*, sp. nov.) from Alaska,‡ a species most nearly allied to *Œ. defillipiana*. Mr. Ridgway is inclined to refer also the Petrel taken in Livingston County, N.Y., identified by Mr. Brewster (Bull. N. O. Club, VI, 1881, pp. 91-97) as *Œ. gularis*, to *Œ. fisheri*.—J. A. A.

Ridgway on the Genus Tantalus.§ — The genus *Tantalus* Linn, is restricted to *T. loculator*, while *T. leucocephalus* of India, *T. longuimembris* of Southern China, and *T. lacteus* of Java and Sumatra, together with *T. ibis*, are separated under the new generic name *Pseudotantalus*.—J.A.A.

Belding on Birds of Lower California.—These collections ‖ were made at several different points, as follows: (1) Coronados Islands, about 20 miles south and west of San Diego, 3 species. (2) San Quentin Bay, west coast of Lower California, lat. 39° 23', 17 species. (3) Santa Rosalia Bay, two degrees further south, on the same coast, 7 species. (4) Cerros Islands, some thirty miles further south, 20 species. (5) La Paz and San José del Cabo, southern extremity of the peninsula, about 130 species. Mr. Ridgway has added (chiefly to the second paper here noticed) various technical notes, the more important relating to (1) *Polioptila cærulea*, the darker western race of which is provisionally named *P. cærulea obscura*, (2) *Siurus nævius notabilis*, (3) *Passerculus rostratus*, giving extensive tables of measurements and comparisons of the latter with *P. guttatus* and *P. sanctorum* (Coues, MS.). Very little field work having been done in the region reported upon in Belding's second paper since the well known explorations of Mr. John Xantus in 1859, Mr. Ridgway has collated therewith the results of Mr. Xantus's work, by giving a list of those species found by Mr. Xantus (derived mainly from the record books of the National Museum) which Mr. Belding did not obtain, and by indicating those in Mr. Belding's lists met with by Mr. Xantus. "The total number of species amounts to 130. . . . Of the species collected by Xantus 34 were not found by Mr. Belding, who, however, obtained or observed 39 species not represented in Xantus's collections." Mr. Belding's two papers form an important contribution to the subject of the distribution of the birds of the southern portion of the peninsula of Lower California, showing that the bird-fauna is more closely allied to that of the United States than with that of the adjoining portion of Mexico.—J. A. A.

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* Description of a New Warbler, from the Island of Santa Lucia, West Indies. By Robert Ridgway. Proc. U. S. Nat. Mus., 1882, pp. 525, 526. Feb. 28. 1883.

† Description of a supposed New Plover, from Chili. By Robert Ridgway. Proc. U. S. Nat. Mus., 1882, pp. 526, 527. Feb. 28, 1883.

‡ Description of a New Petrel from Alaska. By Robert Ridgway. Proc. U. S. Nat. Mus., 1882, pp. 656-658. June 26, 1883.

§ On the Genus Tantalus, Linn., and its allies. By Robert Ridgway. Proc. U. S. Nat. Mus., 1882, pp. 550, 551. March 21, 1883.

‖ 1. Catalogue of a Collection of Birds made at various points along the Western Coast of Lower California, north of Cape St. Eugenio. By L. Belding. Edited by R. Ridgway. Proc. U. S. Nat. Mus., 1883, pp. 527-532. March 21, 1883.

2. Catalogue of a Collection of Birds made near the Southern Extremity of the Peninsula of Lower California. By L. Belding. Edited by Robert Ridgway. Proc. U. S. Nat. Mus., 1883, pp. 532-550. March 21, 1883.

Ridgway and Nutting on Costa Rican Birds.[*] —The collection reported upon was made partly at Volcan de Irazú and partly at San José. At the former locality 32 species were obtained, including five examples of the hitherto very rare *Junco vulcani*, which was here found to be abundant, and 33 from the latter. There are brief field-notes by the collector and technical notes on a few species by Mr. Ridgway.—J. A. A.

Brewster on the "Birds and Fethered Fowles" of Morton's 'New English Canaan.'[†] —Mr. Adams,[*] in reprinting Thomas Morton's 'New English Canaan' (published originally in 1637), with editorial notes, has called to his aid the services of a number of specialists in different fields, and has carefully collated therewith the works of Morton's contemporaries, notably those of Wood, Josselyn, and Higginson. The technical notes on the birds, by Mr. Brewster, form an excellent commentary on the species mentioned by Morton, while the editor has added parallel passages from the writings of the early authors above named, thus bringing together all the important matter relating to birds contained in these early accounts of New England. Morton's 'New English Canaan,' as thus admirably edited, includes nearly everything of interest bearing upon the natural history of New England contained in these early records, and is thus of special value in its bearing upon New England ornithology of the seventeenth century. The work is limited to 250 copies, and in typography and paper is a noteworthy specimen of book-making.—J. A. A.

Gill's Record of Ornithological Progress in 1881.[‡]—Dr. Gill here gives a partial bibliography of noteworthy papers and works, and a synopsis of about half-a-dozen memoirs, including Ridgway's 'Nomenclature of North American Birds,' of Marsh's paper on the characters of *Archæopteryx*, and of his account of *Laopteryx priscus*, a fossil bird from the Upper Jurassic of Wyoming Territory.—J. A. A.

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[*] Catalogue of a Collection of birds made in the Interior of Cost Rica by Mr. C. C. Nutting. By Robert Ridgway. Proc. U. S. Nat. Mus., 1882, pp. 493-502. Feb. 28, 1883.

[†] The New English Canaan of Thomas Morton. With Introductory Matter and Notes by Charles Francis Adams, Jr. Boston: Published by the Prince Society. 1883. Sm. 4to. pp. vi + 381.—Chap. IV. Of Birds and Fethered Fowles, pp. 189-199. With notes by William Brewster and the Editor.

[‡] Record of Scientific Progress for 1881. Zoölogy. By Theodore Gill. Smithsonian Report, 1881 (1883), pp. 408-498. Birds, pp. 481-490.

Birds of Western Ontario.—Messrs. Morden and Saunders have recently published a briefly annotated 'List of the Birds of Western Ontario,'* based on observations "made at and near Hyde Park, London, Mitchell's Bay, Point Pelee, and Lucknow," and numbering 236 species. The list has evidently been prepared with much care and forms a valuable addition to our knowledge of the distribution of Canadian birds. Among southern species included we note the Swallow-tailed Kite, the Cardinal Grosbeak, the Blue-gray Gnatcatcher, Hooded Warbler, Mocking Bird, Rough-winged Swallow, Turkey Buzzard, Avocet, Great White Egret, Glossy Ibis, etc.; and among northern species the Bohemian Waxwing, Evening Grosbeak, both species of Three-toed Woodpeckers, the Cinereous Owl, Hawk Owl, etc. Comparison with Mr. McIlwraith's well-known excellent list of the birds of Hamilton, Ont., published in 1866, shows that, while it contains 5 species less than that, it includes 19 not enumerated in the Hamilton list.

In this connection attention should be called to Mr. McIlwraith's recent interesting collation of the two lists,† his article forming an instructive commentary on the general subject, and at the same time a supplement to his own earlier list, he adding 7 species not contained in either of the two lists here under notice, raising the number of species thus far noted in Western Ontario to 260.—J. A. A.

Minor Ornithological Publications.‡—The 'American Naturalist,' Vols. XV (1881), XVI (1882), XVII (1883), contains (besides various extracts from 'Forest and Stream,' 'Ornithologist and Oölogists,' and other journals) the following original notes and articles (Nos. 455-503):—

455. *Habits of the English Sparrow in the United States.* By Henry Gillman. *Amer. Nat.*, XV, pp. 139, 140.

456. *Migrations of the Sand-Hill Crane.* By F. E. L. Beal. *Ibid.*, XV, pp. 141, 142.

457. *A Collector's Notes on the Breeding of a few Western Birds.* By E. [=G.] Holterhoff, Jr. *Ibid.*, XV, pp. 208-219.—Interesting notes on about 40 species of birds observed in Arizona and Southern California, some of them previously very little known.

458. *Notes on a few of the Diseases and Injuries in Birds.* By R. W. Shufeldt, M. D., U. S. A. *Ibid.*, XV, pp. 283-285.

459. *Value of the House Wren as an Insect Destroyer.* By Charles Aldrich. *Ibid.*, XV, pp. 318, 319.

460. *Our Social Blue Jays.* By Charles Aldrich. *Ibid.*, XV, p. 319.

461. *The English Sparrow in Illinois.* By S. A. Forbes. *Ibid.*, XV, pp. 392, 393.

462. *Red-winged Starlings.* By Charles Aldrich. *Ibid.*, XV, pp. 293, 294.—Observed at Webster City, Iowa, in December.

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* List of the Birds of Western Ontario. By J. A. Morden and W. E. Saunders' Canadian Sportsman and Naturalist, Vol. II, Nos. 11 and 12, pp. 183-187, 192-194. November and December, 1882.

† Canadian Sportsman and Naturalist, Vol. III, pp. 198-200, Jan. 1883.

‡ Continued from Bulletin Nuttall Ornithological Club, Vol. VIII, p. 238.

463. *The Indigo Bird.* By Charles Aldrich. *Ibid.*, XV, p. 394.—Not uncommon at Webster City, Iowa.

464. *Birds out of Place.* By Charles Aldrich. *Ibid.*, V, pp. 476, 477.—Red-winged Blackbirds and Robins seen in December and January at Webster City, Iowa.

465. *Curious Instances in the Breeding Habits of the Bluebird.* By A. M. Reynolds. *Ibid.*, XV, p. 478.

466. *The Eastern Snowbird.* By Rev. Samuel Lockwood, Ph. D. *Ibid.*, XV, pp. 518-526.

467. *The Great Crested Flycatcher.* By Mrs. Mary Treat. *Ibid.*, XV, pp. 601-604.

468. *Brief Notes on Some Iowa Birds.* By Charles Aldrich. *Ibid.*, XV, pp. 654-656.—On the Indigo Bird, Robin, and Blue Jay.

469. *Habits of the Yellow-bellied Woodpecker.* By H. C. Bumpus. *Ibid.*, XV, p. 738.

470. *Breeding Habits of the Fish Hawk.* By H. C. Bumpus. *Ibid.*, XV, pp. 809, 810.

471. *Blackbirds [Quiscalus æneus] Catching Fish.* By Charles Aldrich. *Ibid.*, XV, p. 810.

472. *Unusual Actions of a Hen Turkey.* By John M. Coulter. *Ibid.*, XV, p. 812.

473. *The Blue Gull.* By Charles Aldrich. *Ibid.*, XV, pp. 812, 813.—"A small blue gull" spoken of as following a plowman to devour the "worms and bugs turned up to the surface," seizing them gracefully "without setting a foot upon the ground."

474. *Notes on the Migrations of Birds.* By H. D. Minot. *Ibid.*, XV, pp. 870-872.—Based on observations made in Western Connecticut, from October, 1880, to May, 1881.

475. *The Claw on the Index Digit of the Cathartidæ.* By R. W. Shufeldt, M. D. *Ibid.*, XV, pp. 906-908. (Noticed in Bull. N. O. C., VII, 46.)

476. *Braving the "Blizzards."* By Charles Aldrich. *Ibid.*, XV, p. 903.—Nest with three eggs of "that little winter Snow-bird (*Plectrophanes nivalis*, as I suppose)"—doubtless really *Eremophila alpestris*—found during a "bitter day" in March, near Ames, Iowa.

477. *The Blue Jays.* By Charles Aldrich. *Ibid.*, XV, p. 904.—A permanent resident at Webster City, Iowa (!), and believed to have been seen feeding their young early in May.

478. *Does the Crow Blackbird eat Crayfish?* By F. E. L. Beal. *Ibid.*, XV, pp. 904, 905.—Found to have swallowed "gastroliths, or stomach stones of the crayfish," hence the question.

479. *Terns as Flycatchers.* By J. E. Todd. *Ibid.*, XV, p. 1005.—*Hydrochelidon lariformis* noticed catching dragonflies.

480. *Does the Crow Blackbird Eat Crayfish?* By Charles Aldrich. *Ibid.*, XVI, pp. 57, 58.—The question answered affirmatively. (See above, No. 478.)

481. *Wild Birds Racing with the Cars.* By Charles Aldrich. *Ibid.*, XVI, p. 58.

482. *The Sparrow Pest in Australia.* By Elliott Coues. *Ibid.*, XVI, pp. 140, 141.

483. *The Claw on the "Index" Finger of the Cathartidæ.* By W. A. Forbes. *Ibid.*, XVI, pp. 141-142.

484. *Nesting Habits of the Horned Lark.* By F. E. L. Beal. *Ibid.*, XVI. pp. 240, 241.—Snow seen "blowing over the nest and mother bird when the weather was as severe as midwinter."

485. *Wild Geese as Pests.* By R. E. C. Stearns. *Ibid.*, XVI, p. 326.—By pulling up the young wheat in the grain fields of the Upper San Joaquin Valley, California.

486. *The Acorn-storing Habit of the California Woodpecker* [*Melanerpes formicivorus*]. By Robert E. C. Stearns. *Ibid.*, XVI, pp. 353-357.

487. *The European House Sparrow.* By Elisha Slade. *Ibid.*, XVI, pp. 402, 403.—On its pugnacity toward other birds, etc.

488. *Habits of the Woodcock.* By F. L. Harvey. *Ibid.*, XVI. pp. 737, 738.—Transporting its young between its feet.

489. *Number of Bones at present known in the Pectoral and Pelvic Limbs of Birds.* By R. W. Shufeldt. *Ibid.*, XVI, pp. 892-895.

490. *Food of the Nestlings of Turdus migratorius.* By Elisha Slade. *Ibid.*, XVI, pp. 1007, 1008.

491. *More Complaints about Passer domesticus.* By J. Schneck. *Ibid.*, XVI, p. 1008.

492. *Habits of the English Sparrow.* By Elliott Coues. *Ibid.*, XVI, p. 1009.

493. *How Bad Weather Affects the Birds.* By Charles Aldrich. *Ibid.*, XVI, p. 1010.

494. *The Nesting of the Black-and-white Creeper.* By A. G. Van Aken, *Ibid.*, XVII, pp. 103-105.

495. *A Bewildered Snow-Bird.* By Charles Aldrich. *Ibid.*, XVII, p. 105.

496. *A Study of the Immature Plumage of the North American Shrikes, to show their Descent from a Common Progenitor.* By Thomas H. Streets, M. D. *Ibid.*, XVII, pp. 389-391.

497. *A many-named Bird* [*Botaurus lentiginosus*]. By J. E. Todd. *Ibid.*, XVII, pp. 431, 432. — Reference to its various vernacular names.

498. *The Hairy Woodpecker.* By A. G. Van Aken. *Ibid.*, XVII, pp. 511-515. — On the habits of *Picus villosus.*

499. *The Hairy Woodpecker, a correction.* By T. J. Burrill. *Ibid.*, XVII, p. 673. — Relates to the article last cited.

500. *The Power of Scent in the Turkey Vulture* [*Cathartes aura*]. By Samuel N. Rhoads. *Ibid.*, XVII, pp. 829-833.

501. *King-birds, Tyrannus intrepidus, feeding their young upon Fruit* By Elisha Slade. *Ibid.*, XVII, pp. 887-888.

502. *The English Sparrow in Canada.* By T. McIlwraith. *Ibid.*, XVII, pp. 894-895. — Their attacks on various native birds, and destruction of fruit-buds of grapes.

503. *Gallant Conduct of a Robin.* By Samuel Lockwood. *Ibid.*, XVII, p. 1307.

The 'Canadian Sportsman and Naturalist,' Volumes I and II,* Jan. 1
Dec. 1882, contains the following (Nos. 504-522): —

504. *The Barred Owl* [*Syrnium nebulosum*]. By R. Rowe. *Cana*
Sportsman and Naturalist, Vol. I, p. 27. — Its abundance at St. John.
B., in the winter of 1880-81. Notes also the capture there of vari
other species.

505. *Bird Nesting in Labrador* [Editorial?]. *Ibid.*, I, pp. 50-5.
Relates chiefly to water birds breeding on the coast of Labrador.

506. *Rare Birds in Canada.* By C. [=W. Couper]. *Ibid.*, I, p. 6
"Blue Bunting (*Cyanospiza parellina* [sic])" and Yellow-headed Blackb
the latter at Godbout, Lower St. Lawrence. Also at same place *Pa*
hudsonicus nesting.

507. *Canadian Birds. List of Birds obtained and observed by Pro*
sor Macoun at and near the City of Belleville, County Hastings, Onta
in the Spring of A. D. 1881, with remarks by Professor J. T. Bell
Albert University. Ibid., I, pp. 84, 86. — A nominal list of 75 spec
A note follows, signed "C." (=W. Couper), criticising the nomenclat
of the list (that of Dr. Jordan's well-known 'Manual'), in which
writer displays surprising ignorance of the subject, he apparently h
ing heard of nothing later bearing on it than Baird's 'Report' of 18
To these strictures Professor Bell makes a fitting reply (*Ibid.*, I, p. 95)

508. *Ornithology of the Island of Montreal.* By Ernst D. Win
Ibid., II, pp. 108-110, 116, 117. — A briefly annoted list of 168 spec
based on observations covering seven years.

509. *The Red Crossbill* (*Loxia Curvirostra. — Lin.*). By J. H. G
nier. *Ibid.*, II, pp. 111, 112. — Habits and nesting near Lucknow, On

510. *Ornithological Queries.* By C. [=W. Couper]. *Ibid.*, II,
115, 116, 136, 141, 175. — Respecting the nesting habits and distribut
of many of the rarer birds of Canada.

511. *The Nidification of Nuthatches.* By W. W. Dunlop. *Ibid.*,
122, 123, 137, 138.

512. *Reply to Ornithological Queries. Ibid.*, II, pp. 123, 124. T
articles by respectively Wm. L. Kells and Harold Gilbert. They relat
the Whippoorwill, Winter Wren, Hudsonian Titmouse, and Red-bel
Nuthatch.

513. *Notes on the Natural History of Lucknow, Ont.* By J. H. Garn
Ibid., II, pp. 125, 126. — Contains notes on some of the rarer Waders
Swimmers.

514. *Supposed Nests of the Crossbill* [*Loxia curvirostra*]. By W.
Kells. *Ibid.*, II, pp. 138. — Near Listowel, Ont.

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* The Canadian Sportsman and Naturalist: A Monthly Journal. Vol. I, Jan. 1
Dec. 1881, 8vo., pp. 1-96, Montreal, Can.: William Couper, Editor; W. W. Dun
Assistant Editor. Vol. II, pp. 97-196, 1882, Montreal, Can.: William Couper, Ed
The first volume of this periodical was devoted largely to sporting matters, particul
hunting and fishing, contained very little about ornithology, and this mostly of sl
value. More space is given in volumes II and III to natural history, with a ma
increase in the quantity and great improvement in the quality of the ornitholo
matter.

515. *Sitta canadensis.* By Harold Gilbert. *Ibid.*, II, p. 138. — On its nesting and northern winter limit.

516. [*Whippoorwill*]. By W. L. Scott. *Ibid.*, II, 138, 139. — Its nesting and range in Canada.

517. *The Birds of Prey of Nova Scotia.* By J. Bernard Gilpin, A. B., M. D., M. R. C. S. *Ibid.*, II, pp. 139, 140, 153-155.

518. [*Whistling Swan* (*Cygnus americanus*), *etc.*]. By Harold Gilbert. *Ibid.*, II, p. 144. — Its capture near St. John, N. B., and notes on several winter birds.

519. *Tit Lark* (*Anthus ludovicianus*). By Chas. J. G. Fraser. *Ibid.*, II, p. 152. — Nesting near Galts, Ont. Thought to be the "Shore Lark (*Eremophila cornuta*)" by W. E. Saunders (*Ibid.*, p 163).

520. *Rare Birds in Ontario.* By John A. Morden. *Ibid.*, II, pp. 162, 163. — Relates chiefly to the Lapland Longspur, at Mitchel's Bay, Ont.

521. *List of the Birds of Western Ontario.* By J. A. Morden and W. E. Saunders. *Ibid.*, II, pp. 183-187, 192-194. — An annotated list of 236 species. (Already noticed *anteà*, p. 85.)

522. *Canadian Oölogy.* By Wm. L. Kells. *Ibid.*, II, pp. 195, 196. — Brief informal reference to various species.

Publications Received.—**Shufeldt, R. W.** Observations upon the Osteology of Podasocys montanus. (Journ. Anat. and Phys., Vol. XVIII.)

Coues, E. A Hearing of Birds' Ears. (Science, Vol. II, Nos. 34, 38, 39.)

Morden and Saunders, List of the Birds of Western Ontario. (Canad. Sports. and Nat., 1882, Nos. 11, 12.)

McIlwraith, T. [Birds of Western Ontario.] (Ibid., 1883, No. 1.)

Stearns, W. A. Notes on the Natural History of Labrador. (Proc. U. S. Nat. Mus., 1883.)

Stejneger, L. On the Systematic Arrangement of the American Turdidæ. (*Ibid.*, 1882.)

Collett, R. Ardetta minuta, Sterna cantiaca, og Larus minutus, nye for Norges Fauna. (Vid.-Selsk. Forh., 1883.)

Nelson, E. W. The Birds of Bering Sea and the Arctic Ocean. (Cruise of the 'Corwin,' 1883.)

Bulletin of the Essex Institute, Vol. XIV, Nos. 7-12.

American Naturalist, Vol. XVIII, No. 1, Jan. 1884.

Zoölogist, Dec. 1883.

Ornithologist and Oölogist, Jan. 1884.

Science Record, Vol. II, No. 1.

Bulletin of the Nat. Hist. Soc. of New Brunswick, No. 2, 1883.

Ann. Rep. Mus. Comp. Zoölogy, 1882-3.

GENERAL NOTES.

Abnormal Coloration in a Caged Robin.—Through the kindness of its owner, Mr. A. R. Crittenden, I have recently examined a caged Robin (*Turdus migratorius*) which is now in peculiar plumage, and which has a somewhat unusual history. When taken from the nest, about six years ago, it was perfectly normal in color of plumage, and so remained for two years. It has moulted once a year, in early autumn. After the fourth moult a few white feathers were noticed, and here and there a black one, but it was not until the following year—after the fifth moult—that the change was marked. The bird then appeared with wings and tail almost completely white, while below he was clear *black*, except for a side patch of red under each wing, and the usual white belly. The following winter (last winter), he came out in perfectly normal plumage, though Mr. Crittenden thinks the colors were unusually rich.

This winter, again, the abnormal dress has been assumed, but varying somewhat in detail. He now appears as follows: Above clear black; tail mostly white; interscapulars and most of the wing-feathers white on outer webs; chin, throat, belly, and under-tail coverts normal. The upper breast shows a somewhat crescent-shaped patch of red, and almost as continuations of this on either side are red patches under the wings. A few red feathers down the middle of the breast imperfectly separate the black which would otherwise form a single large pectoral patch. The white about the eyes is normal. The bird is a male, apparently in perfect health, and with a voracious appetite. His food has been principally one part prepared Mocking-bird food to three parts Indian meal, the whole mixed together with a teaspoonful of melted lard. In addition to this he has had only a little fruit and a few insects, mostly house-flies.—W. B. Barrows, *Middletown, Conn.*

[Two previous instances of melanism in the Robin have been recorded in the 'Bulletin of the Nuttall Ornithological Club' (Vol. I, p. 24; Vol. III, p. 47).—Edd.]

Nest and Eggs of the Ruby-crowned Kinglet (*Regulus calendula*).—My friend, Mr. Frank W. Ritchie, of Ottawa, who is at present attending Bishop's College, at Lennoxville, Quebec, has kindly furnished me with the following description of these rarities for publication in 'The Auk.'

"A nest of the Ruby-crowned Kinglet was found by two friends of mine, near Lennoxville, on May 15, 1882. The nest was pensile, and was attached to a branch of a small tree, a few feet from the ground. It was composed of fine moss, evenly and firmly felted, and was lined with bright feathers of the Wild Pigeon. The inside was almost entirely hidden from view by the upper feathers of the lining being caught at the edge of the nest: curving gracefully toward the centre, their points almost meeting, they left but a small opening. The nest measured ten inches in circumference outside, and was three inches in depth inside. It contained nine eggs, one of them a Cow Bunting's. One of the Kinglet's eggs which I examined, and which is still preserved in the Museum of Bishop's College, measures .53 × .40. It is of a dirty creamy-white ground-color clouded with small, faint spots of a darker tint, which are irregularly distributed over the entire surface, excepting near the larger end, where there is a band of dull yellowish-brown. The centre of this band is darkest the color gradually lessening in intensity toward the edges.

"The identification of the parents was nearly perfect. My friends were very familiar with the species, and examined these birds several times as they sat on the nest or perched on the adjoining boughs."

I am informed by Mr. Ritchie that the nest has been destroyed and only the one egg remains of the clutch. Through Mr. Ritchie's kind office the President of the College has courteously permitted this egg to be sent to me for examination so that I am enabled to verify the description given.

Mr. Ritchie states that another of the eggs of this clutch which he had compared with the one described was of exactly the same size, color and markings.—MONTAGUE CHAMBERLAIN, *St. John, N. B.*

Thryothorus ludovicianus in Massachusetts.—An adult specimen of *Thryothorus ludovicianus* was killed on the [illegible] of [illegible] last by Mr. Arthur Smith, in Brookline, Mass. The specimen is now in my cabinet. —C. B. CORY, *Boston, Mass.*

Another Example of Helminthophaga leucobronchialis from Connecticut.—Through the kindness of Mr. [illegible] of [illegible], Conn., I have the pleasure of [illegible] by him, May 18, 1884, at [illegible] under each eye and [illegible] with the same [illegible] The wing-bands are [illegible] yellow. This is [illegible] reported from Connecticut.—[illegible] *[illegible], Conn.*

[I am indebted to Mr. [illegible] above mentioned. [illegible] examples [illegible] tially obscured [illegible] striction of the [illegible] the plumage. [illegible] female of *leucobronchialis* [illegible] is correct.—[illegible]

Nest and Eggs of Myadestes townsendi.—[illegible] Mr. L. Belding [illegible] the nest and eggs of *M*[illegible] have [illegible] sion, giving the [illegible] attempted by the aid of weeds, a stone, or a large piece of bark. One n was built on the ground, within a semicircular cavity of a standing t The nests were composed mostly of pine needles. One had a lining soap-root fibre, and another was built of pine needles upon a slight fo dation of small sticks. Three nests, taken by Mr. Belding at Big Tre Cal., June 8 and 9, 1879, and June 10, 1880, contained each four nea fresh eggs. A set of four, taken at Big Trees, June 15, 1883, fr the side of a stump, fifteen inches from the ground, are now before They correspond closely to Dr. Coues's description of the eggs of t species given in the last number of the 'Bulletin of the Nuttall Ornitl logical Club' (VIII, p. 239). The measurements, which I can take fr two, are .89 × .70, and .93 × .70.—W. E. BRYANT, *Oakland, Cal.*

Prehensile Feet of the Crow (*Corvus frugivorus*).—Apropos of wl has lately been published regarding the power of the Crow to carry jects in its claws I will give my latest note on the subject.

I was attracted to a bunch of trees by a commotion among a troop Robins, and discovered some six individuals fiercely attacking a Crow second black form being detected skulking some little distance aw Presently Crow number one flew off, followed by the entire mob of exci Red-breasts, when Crow number two made a dash into the trees, a emerged with an unfledged Robin grasped in his dexter claws; youngster kicking and piping lustily. The cries brought back the gu dians, who at once gave chase to the captor, and while they were off in direction, Crow number one charged the nest from an opposite point, retired with another of the brood firmly held in his claws.—MONTAG CHAMBERLAIN, *St. John, N. B.*

Do Crows carry objects in their Claws?—There is a habit assigned Crows in Eastern Maine, which, if well authenticated, has an interest the discussion of the question whether they can transport objects in th claws.

Near Eastport, Maine, there is known to me a considerable deposit the broken tests and half-decomposed soft parts of our common N England sea-urchin (*S. dræbachiensis*), far removed above the level high water. This deposit is formed in the main of fragments of the sc tests of these echinoderms, which are said to have been carried there al by Crows, which frequent the locality in great numbers. At a los account for the appearance of these fragments in this unusual localit made inquiries of several persons living in the neighborhood, all of wh declared that the sea-urchin remains were brought by the Crows from shallow water not far off. One intelligent person, not a naturalist, he had observed the Crows *transporting them in their claws.* Althou I can add nothing to this testimony from personal observation, I familiar with several other accumulations of these marine animals localities above high tide, from which I have observed Crows to fly when startled. I cannot tell whether the Crows at such times were fe ing upon the sea-urchins or not, although several of the echinoderms still had their soft parts adhering to the "shells." Our sea-urchin is often left by a retreating tide in the pools where it could be easily seen and taken without difficulty by the Crows. In autumnal and winter gales multitudes are washed up on the beaches to the line of the highest reach of the tides.—J. WALTER FEWKES, *Cambridge, Mass.*

Nest and Eggs of Couch's Tyrant Flycatcher (*T. melancholicus couchi*).—A nest and four fresh eggs, together with both parents of this same species, were taken by my collector, Mr. Bourbois, at Lomita Ranch, on the Rio Grande, Texas, in 1881. I believe this set to be unique (at least so far as the United States fauna is concerned), and worthy of a description.

The nest was situated some twenty feet from the ground, on a small lateral branch of a large elm, in a fine grove not far from the houses of the ranch. It is composed of small elm twigs, with a little Spanish moss and a few branchlets and leaves of the growing elm intermixed. The sides of the nest are lined with fine rootlets, the bottom with the black hair-like heart of the Spanish moss. The outside diameter is 6 inches, and the depth 2 inches. The inside diameter is 3 inches, and the depth 1.25 inches.

The eggs, while having a general resemblance to those of all our Tyrant Flycatchers, are quite distinct in form, size, and ground-color from any others I have seen. The blotches, too, are more numerous and smaller. The large end is very round, and the small end quite pointed. The measurements of the four eggs are as follows: 1.00 × .76, .99 × .76, .98 × .76, .97 × .72, averaging .985 of an inch in length and .75 of an inch in breadth. The ground-color is a rich buff. The general color of the blotches is similar to that of the Kingbird's eggs, and their distribution irregular over the entire egg, but massed about the greatest diameter.

If this set proves to be typical I should have no trouble in selecting the eggs of this species from any number of eggs of other species of the genus.—GEO. B. SENNETT, *Meadville, Pa.*

Recent Occurrence of the Black-backed Three-toed Woodpecker in Massachusetts.—Mr. E. H. Richards of Woburn, Mass., writes me that two specimens of *Picoïdes arcticus* have been taken in that town the past autumn. The first was shot Oct. 16, the other two days later. Both were adult males. A third example was also seen Oct. 21, in Holbrook, Mass.—WILLIAM BREWSTER, *Cambridge, Mass.*

A Woodpecker destroying Cocoons.—This habit of the Woodpecker is something new to me, and may have an interest for others. It was observed by my friend, Mr. Frank W. Ritchie, who, writing from Lennoxville, Quebec, under date of November 21, says: "A few days since I discovered a Downy Woodpecker tearing open a cocoon. I drove the bird away several times, but it persisted until it had gathered the contents. I also noticed near by two other cocoons which had been emptied similarly."—MONTAGUE CHAMBERLAIN, *St. John, N. B.*

The Nest of the Saw-whet Owl.—In April, 1881, I was camped near base of Mt. Katahdin. while on a trip in that section in search of the egg our Birds of Prey. The weather at that time being quite cold, it necessary to frequently replenish the fire. About 3 o'clock in the mc ing I arose for that purpose, and noticed a small object moving aro amongst the remains of our last meal. Further investigation proved i be some kind of small Owl, gleaning among the bones for stray mor of meat. On my near approach it flew into a tall fir, and was hid f sight. During breakfast I again saw it, coming down to within a few of us, when, apparently seeing us for the first time, it again retreated to fir. I then saw it was a Saw-whet Owl, and it seemed to be in no v affected by the light. At night one of my companions informed me had seen a pair of small Owls sitting together in an immense birch, but nest could be found.

The next morning we struck camp, and moved toward the summi the mountain. In about a week we returned over the same route and ag camped at the place just mentioned. On the second night I was surpri to see the little Owl come as before. We concluded he must have a r near, and the next day, April 30, we commenced to search for the n In the afternoon one of my guides was so fortunate as to discover the C going into a hole made by a Woodpecker, in a large birch. He loo in but could see nothing, and had stopped up the entrance with moss that I might see it just as he found it. On going to it and removing moss I found the entrance quite large, having been slit by some ani trying to effect an entrance. Carefully cutting away the bark below hole exposed the nest, which was merely a mixture of fine chips and sn feathers of the Grouse. It contained the old Owl and three young on

I was disappointed at not securing any eggs, but felt amply repaid viewing one page in the life-history of this little Owl, who sometir visits me in my more southern home.

The young Owls were wonderfully droll-looking little fellows, and they gazed at me with upturned eyes from down in the heart of that ca birch, in the middle of that immense forest, stretching away for mi remote from any human habitation, I thought that single look v worth hours of gazing at prepared specimens, inclosed in mahogany ca in our scientific museums. The formation of a collection does not con tute all there is in the study of ornithology; and around the memory the scene in that old Maine forest are clustered affections which ti cannot destroy.—F. H. CARPENTER, *Rehoboth, Mass.*

Another Gyrfalcon in Rhode Island.—A specimen of the variety *sa* was killed at Point Judith, R. I., Oct. 11, 1883, by E. S. Hopkins, E of this city. He also killed an adult Duck Hawk the same day, which the second I have examined from the same locality this month, Mr. R. Hazard possessing the first one, a beautiful bird of the year. Gunners the seaboard report Hawks as being unusually plentiful this autumn FRED. T. JENCKS, *Providence, R. I.*

Breeding Habits of the Everglade Kite.—My friend, Mr. E. W. Montreuil, had the good fortune this season, while on a collecting trip to Florida, to take a set of eggs of the Everglade Kite, which are now in my possession. As there are so few descriptions of the eggs of this species on record the following notes may be of interest. The eggs measure as follows: 1.91 X 1.50; 1.80 X 1.51: 1.80 X 1.45 (measurements in hundredths of an inch). No. 1 has a ground-color of light brown, nearly obscured by large blotches of dark brown, in some places becoming reddish-brown. No. 2 has the ground-color a dirty white, covered on the larger end by spots and blotches of different shades of brown, which become smaller and fewer at the other end. This specimen resembles the common varieties of eggs of the European Sparrow Hawk (*Accipiter nisus*). Number 3 has a clear ground-color of greenish-white, and on the smaller end are scrawls, lines, and a few spots of light and dark brown. These eggs are larger than those collected by Mr. C. J. Maynard some years since in the Everglades.

I will quote in full from a letter received from Mr. Montreuil about the breeding habits of this Kite. "This bird (*Rostrhamus sociabilis plumbeus*) is found in numbers in the Everglades of Florida, especially on the east side. They lay their eggs early in March, but some pairs later than others, as the set you have were taken March 16 and were fresh, while all the other nests had young in them. When they breed a male and female are by themselves, always near a small island, which they make their rendezvous, and while resting on a branch they can have an eye on their nest for enemies, especially the Crows, who rob their nests whenever they can. Around some of the islands there are several pairs of *Rostrhamus*, but they always place their nests a few acres apart from each other. While going about in an Indian canoe you see the bird flying around, up and down, their wings straight open, fishing for the Everglade shells which are their principal food. When through with their meals they go back to their nests with food for the young, and then they can easily be discovered. They build their nests with dry branches and saw-grasses, attached to saw-grasses, about 12 inches below the tops, just so as to be out of sight. They measure about 12 inches in diameter and 6 inches high, and the cavity is about 3 inches deep. They lay from two to three eggs. The old birds usually bring their throats full of the animals of the Everglade shells, but sometimes they bring the animal in the shell, as many nests contained a lot of these shells. While they have young they are not wild, flying over one's head when near the nest."—H. B. Bailey, *New York City.*

Nesting of the Broad-winged Hawk (*Buteo pennsylvanicus*).—As but very few of the nests of this species have been described, an account of one taken by myself, about two miles north of this city, on June 23, 1883, may not be considered superfluous. It was built in a large yellow birch tree, near the margin of a rather open wood, which was composed of mixed birch, spruce, and hackmatac, and which adjoined a dense cedar swamp. The nest was placed in a fork of the tree, about thirty feet from the ground, and was composed, exteriorly, of dried twigs of hackmatac and birch, with a sparse lining of straw and feathers. In it were two eggs, which proved far advanced toward incubation; they measure 1.94 × 1.50 and 1.95 × 1.51, and are very similar in shape and markings to those described by Dr. Brewer; though I have failed to detect any of the yellow and purple tints mentioned by that writer. The ground-color is of a grayish or dirty white tint, heavily and irregularly marked with blotches of reddish-brown. On one of these eggs is a patch of dark chocolate brown, with blotches upon it of a still darker shade—almost black. This patch measures over one inch in length, and, at its broadest point, three-quarters of an inch in width. On the other egg the blotches and splashes are smaller, lighter in color, and chiefly gathered upon one side. Under a a glass all these 'markings' appear on the surface of the shell; the deeper tints are formed by accumulated layers of light color; an occasional blotch of dark brown, however, exhibiting none of this accumulating process Much of the 'dirtiness' noticed on the ground color is the effect of splashes of pigment under the surface.

The male parent was sitting on the nest at the time I approached it, and, when I began to climb the tree, he flew to a bough some seventy yards off, where he was shot. His stomach contained the partially digested remains of three unfledged Thrushes.—James W. Banks, *St. John, N. B.*

Note on Zenaidura yucatanensis Lawr.—In the 'Proceedings' of the Zoölogical Society of London, 1883, part iii, p. 458, Mr. Salvin states his inability to distinguish this bird from Cuban and Jamaican specimens of *Zenaida amabilis*. This has led me to reëxamine the type, with special reference to the question of identy with *Z. amabilis*, and as the result I must say that the difference is very great. In fact, as stated in 'History of North American Birds' (vol. iii, p. 382), *Z. yucatanensis* is exactly intermediate, both in form and coloration, between *Zenaidura carolinensis* and *Zenaida amabilis*, but has 14 rectrices, as in the typical species of the former genus. These facts lead n.e to suspect that Mr. Salvin has examined specimens of true *Z. amabilis* from Yucatan, which supposition if correct, would render my surmise (l. c.) that *Z. yucatanensis* may be a hybrid between *Zenaidura carolinensis* and *Zenaida amabilis* more worthy of consideration.—Robert Ridgway, *Washington, D. C.*

Bernicla brenta nigricans in Massachusetts.—In the spring of 1883, a specimen of this variety was sent to Mr. C. J. Goodale, of 93 Sudbury St., Boston, to be mounted. It was claimed that it had been killed at or near Chatham, Mass. The bird was perfectly fresh when received.—C. B. Cory, *Boston, Mass.*

Night Herons and Rails in Dakota.—I have just returned (Sept. 15, 1883), from camp, near Wall Lake, Dakota. I found many birds moving towards their southern homes, but none so pleasing to me to see as the Night Herons (*Nyctiardea grisea gnævia*).

Perhaps this may seem strange, but in all my experience in this section I have seen but very few of these birds. I have heard them many times, after nightfall, but previous to last week never shot but one. My first I shot out of a flock of about a dozen, two years ago, but a little later than this date; and last week in one day I shot seven. We were camped on Wall Lake, not far from Sioux Falls, and as I walked along the water's edge, they would fly out over the water giving me an excellent shot.

A couple being wounded started back to shore by swimming, and that quite rapidly, until met by my retriever, who, in turn, was pecked at savagely by the wounded birds. All that I shot were young ones. In the evening, when the sun was about an hour high, a flock of some twenty came from the high prairie north of the lake, and flew directly over it, going to the south and disappearing, still upon wing. In this flock were a few old ones. Of those seen during the day around the lake, none were old ones, and the number must have reached eighteen or twenty. At night, we were greeted by the same squawk I had heard in the fall of 1881, 140 miles west of Winnepeg; in 1880, at Skunk Lakes, in Dakota; in 1880, near this city; and last spring, some eight miles from this city. At the latter place I saw two, and one was shot by a friend and brought to me for identification, having first been examined by a majority of our best hunters, none of whom had ever seen the bird before.

Dr. Coues, I believe, did not meet with this bird in this (Missouri) region, except in the Red River country, and since I have only found it as above stated, I do not think the bird is common in this section.

By the way, *Porzana carolina* is getting quite common; in going up the Vermillion River bottoms last week I saw a great many of them. Last spring I saw four Red-breasted Rails (*Rallus elegans*), and one was shot and presented to me. Thus far I have not seen or heard of any others. —D. H. TALBOT, *Sioux City, Ia.*

Occurrence of the Royal Tern (*Sterna regia* Gamb.) at Tangiers in Morocco.—This species, which has been previously recorded in Irby's 'Ornithology of the Straits of Gibraltar,'* as having been once obtained at Tangiers by M. Favier, a French collector, formerly resident there, has again occurred at that place, two specimens, both males—one a bird of the year and the other nearly mature — killed in the Bay of Tangiers on 10th December last, having been recently sent me. The former is still in my possession and the latter is now in that of Mr. Howard Saunders of London. These specimens, along with thirteen others, were killed from a flock of about thirty, by a resident naturalist, all being shot from a boat without moving from one spot. This Tern has not been observed in Europe, but has occurred several times on the Gold Coast of Africa, chiefly in spring.—JOHN J. DALGLEISH, *Edinburgh, Scotland.*

Buffon's Skua in Western Vermont.—I have lately examined a specimen of *Stercorarius buffoni* which was shot at West Castleton, Vermont, in

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* There recorded in error as *S. bergii*. *Vide* P. Z. S. Lond., 1876, p. 655.

September, 1877, by Mr. George B Dunbar. I have been unable to ascertain the exact date of its capture, but it was little later than the 7th of the month, doubtless within two or three days of that date. The bird, which is in immature plumage, was in company with another apparently of the same species and age, as no difference could be detected between them. It was shot on Screwdriver Pond, a pond of about a mile in length, half a mile from Lake Bomaseen, which is a body of water some nine miles long, situated about ten miles east of the southern end of Lake Champlain.

The occurrence so far inland of a species that usually is found only off our coast, seems to demand some explanation, but that which always first suggests itself in the case of sea-birds taken in the interior, viz., that the bird has been driven from its accustomed haunts by a storm, seems in this case to be insufficient. Although the U. S. Signal Service recorded "heavy northeast gales" as prevailing along the New England coast during the 7th, 8th, and 9th of the month, yet the chances are extremely small that two individuvals of the same species should have been blown by the same gales to the same pond at a distance of a hundred and thirty miles from the coast. I should prefer to suppose that in their youth and inexperience they had wandered in company from the Gulf of St. Lawrence up the St. Lawrence River, and then, guided only by an instinct that impelled them southward, they had followed up the Champlain Valley to the point where they were found—CHARLES F. BATCHELDER, *Cambridge, Mass.*

A newly-discovered Breeding Place of Leach's Petrel (*Cymochorea leucorrhoa* (Vieill.) Coues) in Scotland.—A friend of mine, Mr. John Swinburne, when on an ornithological yachting cruise during the past summer, visited the little-known island of Rona, lying about forty miles to the northeast of the Island of Lewis, in the Hebrides, which had not been previously visited, so far as known, by any ornithologist. He found about twelve or fifteen species of birds inhabiting the island, chiefly, of course, sea-birds. Among them he found, on 20th June, the Fork-tailed Petrel breeding in considerable numbers, and took a number of their eggs, which were quite fresh. He tells me he found them breeding in burrows in companies, several pairs of birds inhabiting the same main burrow, off which each pair had a separate and smaller burrow formed at right angles to the main one, at the extremity of which their single egg was laid. The only European breeding place of this species hitherto known is St. Kilda, where Sir William Milne found their nests in 1847. The common Stormy Petrel, *Procellaria pelagica*, also breeds at St. Kilda, although it does not appear to do so on Rona, so far as observed by Mr. Swinburne.—JOHN J. DALGLEISH, *Edinburgh, Scotland.*

Black-throated Auk (*Synthliborhamphus antiquus*) in Wisconsin.—If my readers will look at a map of North America they will be surprised, to say the least, that a North Pacific sea-bird should find its way, even by accident, to the State of Wisconsin. The great range of the Rocky Mountains, extending to the very verge of the Arctic Ocean, acts as a natural barrier against all Pacific sea-birds reaching the Atlantic Watershed. That the species under consideration extends its summer migration to the shores of the Arctic Ocean, and even east from Bering Strait, no one knows to what extent along the southern shores of the great Polar Sea, there can be little doubt. It seems to me, then, much more reasonable to suppose that this rare straggler should come south along with the great horde of Swans, Geese, and Ducks which annually pass up the Mackenzie River, through great Slave Lake, thence from lake to lake until it reached the great Mississippi Valley, than that, being eminently a bird of the sea, it should leave its natural element to cross a great mountain range. Be this as it may, the fact remains that a full plumaged adult Black-throated Auk (*Synthliborhamphus antiquus*) was shot on Lake Koshkonong, Wis. It was shot by Rev. G. E. Gordon of Milwaukee, and the stuffed specimen is beautifully preserved under a glass shade at 'Koshkonong Place,' a private shooting preserve, where I had the pleasure of visiting this fall. The circumstances of the capture are as follows: Late in October, 1882, during a northern 'blizzard' — a storm so severe that it drove most of the Ducks out of the lake—Mr. Gordon was concealed in his blind, shooting Ducks, when he noticed this strange bird circling around his decoys, and he shot it while on the wing. No others were seen in company with it, and at no other time in the memory of the oldest hunters has its like been seen there before. It may well be called a 'strange bird' by the residents and visitors, frequenting this charming spot, and the fact of its capture so far away from its habitat will be no less interesting to ornithologists throughout the length and breadth of our land. Many queries could be started here in connection with the eccentricities of straggling birds not quite in place in connection with this short notice. The more I ponder on the facts of the capture of this straggler, the more wonderful it seems to me. Take notice that Lake Koshkonong is in the south-eastern part of Wisconsin, three degrees east of the longitudinal line of the western shore of Lake Superior, and about sixty miles west of Lake Michigan. If the bird had its habitat in the Atlantic Ocean it would be more natural that it should drift with the fresh waters of Hudson's Bay and thence by the Great Lakes to this small lake, whose waters flow into the Mississippi, than that, being as it is a North Pacific bird, it should be found here.

For the benefit of those wishing to compare the species, I will give description and measurements carefully taken from the stuffed specimen. I have compared my observations with specimens from the Smithsonian Institution and my own collection, and I see no chance for being mistaken about the species. Bill black at base and along ridge of culmen, sides light brown running to blue at tip, .6 of an inch long, .25 inch deep at base and less in width, feathered to, and partly over, nostril. Gape 1.12 inch. Feathers of throat extend to within .19 inch of angle of gonys. Distance from eye to nostril, .87. Tarsus 1 inch, scutellate in front and on sides, and very much compressed. Middle toe, without claw, same length as tarsus. Wing 5.50, brown-black. Tail 1.50, black. Black of head extending .37 inch below eye and down nape to shoulder, where the smoky-ash mantle extends over back and wing-coverts to tail. Whole under parts white up to throat, which is mixed sooty-brown and white, showing less and less white as the under mandible is reached, where the feathers are clear sooty-brown.—GEO. B. SENNETT, *Meadville, Pa.*

Birds New to the Fauna of Kansas, and others Rare in the State, captured at Wallace, Oct. 12 to 16, 1883. — The following four species are new to the State:—

Merula migratoria propinqua *Ridgw.* WESTERN ROBIN.—Saw a flock of seven. Killed two.

Zonotrichia gambeli intermedia *Ridgw.* INTERMEDIATE WHITE-CROWNED SPARROW.— The birds were quite common along the railway in the ditches and cuts, which, from the weeds growing and blown in from the plains, afford both food and shelter. Shot several. Professor D. E. Lantz writes me that he killed one of these birds at Manhattan, Oct. 9, 1883. The Professor is therefore entitled to the credit of adding the bird to our State list. Its capture so far east is a rare find.

Sphyrapicus varius nuchalis *Baird.* RED-NAPED WOODPECKER. — Killed a pair out of three young birds found in the willows and cottonwoods thinly skirting the south fork of the Smoky Hill River.

Buteo borealis krideri *Hoopes.* KRIDER'S HAWK. — Killed a female. I think I saw another bird, but am not positive, as they closely resemble, at a distance, the light phase of *Archibuteo ferrugineus.*

The following three species of birds are rare in the State:—

Myiadestes townsendi (*Aud.*) *Caban.* TOWNSEND'S SOLITAIRE.—I saw ten and shot four of these birds.

Dendrœca auduboni (*Towns.*) *Baird.* AUDUBON'S WARBLER.—Shot several; quite common.

Corvus cryptoleucus *Couch.* WHITE-NECKED RAVEN.—Saw a flock of six, and another of seven birds; shot three.

I have specimens of the above species in my collection.

I rejoice to know that we are at last to have a standard classification and nomenclature, as it will do away with the present confusion in arrangement and in names. I shall, in accordance with same, issue a new edition of my 'Catalogue of the Birds of Kansas.'—N. S. GOSS, *Topeka, Kansas.*

CORRESPONDENCE.

[*Correspondents are requested to write briefly and to the point. No attention will be paid to anonymous communications.*]

Are Trinomials Necessary?

TO THE EDITORS OF THE AUK:—

Sirs: I purpose taking advantage of the 'Correspondence' department to ask some of those who are most conversant with the subject to kindly explain through these pages, why it was considered necessary to adopt trinomial nomenclature for American ornithology? Or perhaps the object which I desire to achieve will be more clearly defined if I put the question thus: Why was it considered necessary to institute that division in zoölogical classification termed 'variety,' for which trinomials are used?

I do not ask this merely for the sake of provoking a discussion on the subject, nor because I consider that, in the event of a discussion ensuing, it is either probable or desirable that any change shall be effected in the minds of those who advocate the use of trinomials. I ask it simply to have the whole matter plainly set forth, and, if possible, an end put to the opposition to this system, which is at present so felt by some of our students; an opposition which it would be unfair to suppose would be persisted in if the reasons for adopting the system were thoroughly understood.

Let me state just here, that I do not wish to assert that this opposition occurs in the ranks of the more advanced of American students — the 'scientists'— for I can not say from personal knowledge whether it does or does not exist there; indeed so far as I am aware, it is found only among a portion of my brethren of the 'amateur element'; and while candor compels me to acknowledge that in some cases the objections are undefined and unreasonable, there are others, again, who support their opinions by strong and lucid arguments.

Nor need these gentlemen be at all ashamed to admit their position, for similar opinions are held by many of the *savants* of Europe. I can not, at the moment of writing, recall the name of any English ornithologist who has written in favor of this system, excepting Mr. Henry Seebohm.

Mr. Harting, the editor of the 'Zoölogist,' and who is a member of the British Ornithologists' Union, as well as an F.L.S., and an F.Z.S., has strongly condemned it; and not so much as one trinomial has been placed in the recently issued catalogue of British Birds, published by the B. O. U., and known as the 'Ibis List.' Proof that this omission was not accidental, occasioned, as it might be argued, by the isolated character of the British fauna, is furnished by the list. For instance, the two species of the Hawk Owl, the American and the European, are named by the American systematists respectively *Surnia funerea*, and *Surnia funerea ulula;* while in the 'Ibis List' they stand simply as *Surnia funerea*, and *Surnia ulula*.

Of course it may be urged that this question has already been fully discussed in the writings of Messrs. Baird, Coues, Ridgway, Allen, and others; but some of the readers of 'The Auk' have not access to these papers, and a summary of their contents will be very acceptable to those in whose interest the present communication is framed.

Very respectfully,

St. John. N. B. MONTAGUE CHAMBERLAIN.

[Our correspondent's points are well taken, and we will endeavor to briefly explain. First, "Why was it considered necessary to institute that division in zoölogical classification termed 'variety' for which trinomials are used?" From the context our correspondent seems to imply that this is an innovation peculiar to American ornithology. So far from this being the case, 'varieties' are recognized in all departments of zoölogy, and also in botany, and by all authors of authority the world over, in varying extent, however, in different groups and by different writers. For the forms here referred to as 'varieties,' various terms are in more or less current use, some of which are more explicitly distinctive of what is meant than is the more elastic designation 'variety.' Among such terms may be cited 'subspecies,' 'conspecies,' 'incipient species,' 'imperfectly segregated species,' 'geographical races,' 'local forms,' etc. These all imply the character of the forms thus designated, namely, that they are *intergrading*, which, while characterized by differences easily recognized in their well-developed phases, yet so coalesce through intermediate stages of differentiation that they run the one into the other and cannot be sharply defined. On the other hand, 'species' are forms that do not, or at least are not known to intergrade, but are separated by a hiatus of greater or less extent. Complete separation is therefore the criterion of species, intergradation of subspecies, conspecies, or varieties. "But," our correspondent may ask, "why is it necessary to recognize intergrading forms at all?" The extent to which they shall be recognized is a matter of judgment, and practice in this regard must ever vary with the predilection of the writer, some deeming it advantageous to recognize forms by name that others will regard as not sufficiently differentiated to render their recognition necessary in nomenclature. 'Varieties,' or subspecies, are usually geographical, and in many cases evidently result from the varying conditions of environment which prevail within the habitat of a species of wide or continental distribution, these varying conditions being due to differences of latitude, elevation, or topographic features — in other words, to differences of climate, as regards, notably, temperature and moisture. For example, our common Song Sparrow inhabits the greater part of the North American continent, but is represented in different parts of it by quite diverse forms, just as the continent itself embraces wide areas over which prevail climatic conditions very different from those characteristic of other parts. Every one at all conversant with North American birds knows that the Song Sparrow of the States east of the Mississippi River is very different from the Song Sparrow of the great elevated, arid plateau of the interior, and that this interior form is again very different from the forms found at different points along the Pacific coast. These various forms, in their extreme phases, are widely diverse, varying in size, color, and in the relative size of the bill, etc., and may be more readily separated from each other than can well-defined species be in some other groups of our birds. Yet these very diverse forms of the Song Sparrow are found to intergrade at the points and over the areas where the physical conditions of these several climatic regions of the continent blend, and in the same gradual manner. What occurs in the Song Sparrow occurs also in most species having the same vast extent of habitat, and in a similar way as regards the development of geographical forms under differing physical conditions of environment. It is obviously a gain in the way of exactness of expression to be able to designate these different forms—to give a "handle to our facts"—by recognizing them in our systems of nomenclature. This recognition is very generally accorded them, but in very different ways. And this brings us to the matter of trinomials.

A common way of recognizing such forms is, for instance,—to go back to the case of the Song Sparrow,—as follows: *Melospiza fasciata*, var. *rufina*, using four terms in expressing the name and status of the varietal form in question. This is cumbersome and inconvenient. Another method is to use the term 'subsp.' in place of 'var.' This is explicit, and expresses the exact relationship of the two forms in question. Still other methods have been tried, as the separation of the subspecific name from the specific by some mark of punctuation, or an arbitrary character, as a letter or figure. But these devices are all needless and burdensome. The trinomial name results from simply dropping the connective term, be it either 'var.,' 'subsp.,' or an arbitrary character, leaving it to be understood that any form designated by a trinomial is a subspecies of the species indicated by the second term of the trinomial. Binomials relate always, in the practise of American ornithologists, to non-intergrading forms, hence to species; while trinomials are only applied to forms which intergrade. Status and relationship are thus as fully understood as would be the case were the whole form of four terms written out. Instead of doing violence to the so-called 'Stricklandian Code,' the trinomial system is a device, as we have stated on other occasions, to meet simply and completely a condition of things unknown and unsuspected when that, in most respects, admirable system of nomenclatural rules was conceived, and is in accordance with the spirit if not with the letter of that 'Code.' It is in no sense a lapse toward polynomialism.

The merits of this system are already becoming recognized abroad, and with greater promptness than, we dare say, the most ardent trinomialist had ever ventured to hope, much less expect. In 'The Ibis' for July, 1881 (p. 290), the editors, in a review of Mr. Ridgway's Nomenclature of North American Birds, speak as follows: "On this we may remark, that we cannot deny the advantages of the use of trinomials when strictly limited to such cases as these [intergrading forms], and have little doubt that they will ultimately come into general use. But they can only be advantageously employed in countries such as North America and Europe, where large series can be obtained from many different localities. In other parts of the world their use would at present be attended with much inconvienience, it being impossible to ascertain in very many cases. from lack of specimens, whether these intergradations exist or not."

As showing further the progress of trinomialism in England—the stronghold of binomialists—we may quote the following from Mr. Seebohm's 'History of British Birds' (Part II, p. xii) :—

"English ornithologists have for the most part ignored these intermediate forms and with characteristic insular arrogance have sneered at their American *confrères* for adopting trinomial names which their recognition demands. In this, as in so many other things, our American cousins are far in advance of the Old World. One English ornithologist, however, deserves to be mentioned as an honorable exception. Mr. Bowdler Sharp has boldly braved the blame of the Drs. Dry-as-dust and the Professors Red-tape, and the volumes of the 'Catalogue of Birds of the British Museum' hitherto represent almost the only European publications on ornithology which are not behind the age in this respect. The binomial name will probably be generally used as a contraction; but it must never be forgotton that it is only a contraction. The difference between a species and a subspecies, though in some cases not very clear, is far too important a fact to be sacrificed to a craze for a uniform binomial nomenclature."

[We may add that Dr. Gadow, in the eighth volume of the same monumental work, has followed closely, in this respect, in the footsteps of Mr. Sharpe.

On the continent there are already notable and numerous converts to the system, among whom we may mention Count von Berlepsch, Drs. Reichenow, Hartlaub, Severtzoff, Collett, and Stejneger, who have all employed trinomials in their recent papers, while Dr. Cabanis shows an unmistakable leaning in the same direction. Professor Schlegel, of the Leyden Museum, is perhaps to be counted as the father of the system, he having for more than twenty years made use of trinomials in precisely the sense in which they have come into current and almost universal use among American ornithologists, and to a large extent among mammalogists, herpetologists, and ichthyologists. During most of these years he has been cited as a flagrant example of a 'polynomialist,' and on many occasions sneered at for his heterodoxy. While he antedates Americans in the systematic use of trinomials for intergrading forms, we are in position to know that the 'American school' was the spontaneous outcome of our studies of American birds, and that the use of trinomials was forced upon us by conviction of their utility and necessity.

While lack of space forbids our enlarging upon this important subject in the present connection, we trust we have thrown some light upon the questions raised by our correspondent, and that the many estimable workers for whom he may be supposed to speak will see that the use of trinomials is by no means a freak in nomenclature, countenanced by merely a small following of American writers.—J. A. A.]

NOTES AND NEWS.

THE outcry from all quarters excepting headquarters of American ornithological science against the name of our new journal satisfies us that the best possible name is THE AUK. Were the name of this journal one which anyone could have proposed and everyone liked, it could not have been an 'inspiration.' The editors beg to say that they have copyrighted, patented, and 'called in' the following puns and pleasantries: 1. That THE AUK is an awkward name. 2. That this journal is the awkward organ of the A. O. U. (These two species, with all possible subspecies, for sale cheap at this office.) 3. That this journal should be published in New Yauk, or in the Orkney or Auckland Islands. (It is published at Boston, Mass., at $3.00 per annum, — free to active members of the A. O. U. not in arrears for dues.) 4. That an Auk is the trade-mark of a brand of guano! (A rose by any other name, etc.) 5. That the Auk is already defunct, and THE AUK likely to follow suit. (*Mortua Alca impennis — in pennis* ALCA *rediviva!*) 6. That the Auk couldn't fly, and what's the use of picking out a name, etc., etc. (But the Auk could dive deeper and come up drier than any other bird, as Baird says.) 7. That THE AUK apes 'The Ibis.' (Not at all. It is a great improvement on 'Ibis.' 'Ibis' is two syllables and four letters; 'Auk' is only one syllable and three letters — a fact which bibliographers will appreciate. It is simply following a good precedent because it is good. We wish, however, that we could 'ape' or otherwise imitate 'The Ibis' in sundry particulars. We should like to make THE AUK the leading ornithological journal of America, as 'The Ibis' is of the rest of the world. We should like to make THE AUK the recognized medium of communication between all the ornithologists of this country, as 'The Ibis' is of that. We should like to take and keep the same high standard of excellence in every respect, and thus become such an acknowledged authority as 'The Ibis' is. We should like, on behalf of the A. O. U., to imitate 'The Ibis' in the courtesy and kindliness already shown us on the part of the B. O. U. We should like to 'ape' or otherwise resemble 'The Ibis' in vitality and longevity. May its shadow, already 'sacred,' be cast while the pyramids stand; and may THE AUK in due time be also known of men as an 'antient and honourable foule'!)

—The publication of the long-delayed 'Water Birds' of North America, by Messrs. Baird, Brewer, and Ridgway, is at last passing rapidly though the press. The work will make two volumes, and will, in reality, form the concluding portion of the 'Ornithology' of the Geological Survey of California, Prof. J. D. Whitney, State Geologist. In general style it will be uniform with the 'Land Birds' of the California Survey, with colored figures in the text. The cost of publication will be borne jointly by Professor Whitney and Mr. Alexander Agassiz, and the work will hence appear also in the 'Memoirs of the Museum of Comparative Zoölogy.' The first volume is expected to appear about June, 1884, and the other by the b ginning of 1885.

—Mr. C. B. Cory, has in preparation a work of the birds of Haiti an Santo Domingo. It will be uniform in size with his 'Birds of the Bah mas,' and will give figures of many of the species. It will be issued i four or five parts, the first of which may be expected to appear abo March 1.

—Dr. Coues's new 'Key to North American Birds' will doubtless shortl appear, the composition being nearly completed. We have seen stere proofs to p. 669 (*Rallidæ*), and galley slips into *Laridæ*. The work wi comprise about 850 pages, and about 500 cuts, many of them new. Th work, entirely rewritten and greatly enlarged, consists of three parts. Pa I is the author's 'Field Ornithology,' reprinted with little change. Pa II, pp. 59-236, entitled 'General Ornithology,' includes an essay on th classification of birds, and a treatise on avian anatomy. Part III is th 'Systematic Synopsis of North American Birds,' in which the origin brief diagnoses are expanded into more elaborate descriptions, with th addition of the characters of the genera and higher groups.

—Dr. P. L. Sclater has begun the publication of a very important 'Review of the Family *Icteridæ*' (Ibis, April and July, 1883), giving diagnose and quite extended bibliographical references. One genus and severa species are characterised as new, and illustrations given of a number o species not previously figured, in the two parts which have alread appeared.

—The 'Ornithologist and Oölogist,' lately published by Mr. J. M. Wad of Boston, has passed into the hands of Mr. Frank B. Webster, of Pawtucke R. I. The publisher announces that with the beginning of the new serie (Vol. IX, 1884), the size of the magazine will be increased from 8 to 1 pages per number, the subscription price remaining as heretofore at $1.0 per annum. A 'specimen' number for January, 1884, was issued abou December 20, 1883, and contains the usual number of good articles an notes. There is doubtless room and need for a distinctively amateu journal like this, and we cordially wish it success.

—At a meeting of the Ridgway Ornithological Club of Chicago held December 6, 1883, contributions to the museum and library were announced and seven corresponding members elected. Mr. B. T. Gault read paper on the Titlark Sparrow (*Passerculus anthinus*), illustrated by specimens of the bird, nest, and eggs collected on the coast of California. Mr A. K. Coale read a paper on the genus *Zonotrichia*, and mentioned th recent capture of three specimens of *Z. querula* at Trempeleau, Wisc.

—At a recent meeting of the Nuttall Ornithological Club the followin officers were re-elected for the ensuing year: President, William Brewster Vice-president, J. Amory Jeffries; Recording Secretary, Henry A. Purdie Corresponding Secretary and Editor, J. A. Allen; Treasurer, Charles F Batchelder.

—The Committee of the A. O. U. on 'Classification and Nomenclature of North American Birds,' recently held an eight days' session in Washington, and determined the scope and form of the proposed new 'List' of North American birds, and formulated a set of rules for the guidance of the committee in their work. The subject of genera was carefully considered, and a considerable reduction from the number now currently recognized was agreed upon. Several days were devoted to a consideration of the principles of nomenclature, with results eminently satisfactory to the committee. Sub-committees were appointed to especially investigate all questions of synonymy, to consider the status of species and subspecies, and to elaborate and codify the rulings of the committee respecting the general principles of nomenclature. The committee worked with the utmost harmony, and adjourned to meet again some months later, to continue and, if possible, conclude their work.

—The A. O. U. Committee on 'Avian Anatomy' held a session in Washington, on December 15, and considered the desirability and possibility of preparing a general work on the anatomy of birds, to be in part based on special memoirs already extant, and in part on original research by members of the committee. The project to some degree took shape, and will be further considered. The committee on 'Classification and Nomenclature' referred to this committee a series of special investigations to determine the relationships of various groups of North American birds, whose position in the natural system has not as yet been satisfactorily assigned.

—The A. O. U. Committee on 'Migration of Birds' met in New York on December 17 to determine ways and means for carrying on their work. The circular of the Chairman, Dr. Merriam, published in this issue of 'The Auk,' shows the plan of operations agreed upon for the current year, and indicates that the work of collecting data will be pushed vigorously and on an extensive scale.

—The A. O. U. Committee on the 'European House Sparrow' have entered heartily upon their work, and have prepared a circular soliciting information from all available sources to aid them in the preparation of their report.

—The A. O. U. Committee on 'Faunal Areas' has decided to prepare as a 'report of progress' a provisional map of faunal areas for North American birds, and will enter upon the collection of data concerning the breeding and winter ranges of all the well-known species for the purpose of eventually mapping the distribution of as many species as may be practicable. For this purpose the committee decided to enlarge its numbers, and to assign particular districts to special workers.

—Dr. R. W. Shufeldt, recently on duty at Jefferson Barracks, La., has returned to Washington and is again in charge of the osteological department of the Army Medical Museum.

—Dr. Leonhard Stejneger has returned from the Commander Islands, Kamtschatka, with an extensive and valuable collection of birds and other objects of natural history, and is now engaged in writing a report for publication upon the material gathered.

—Messrs. J. Murdoch and Middleton Smith, who have been stationed at Point Barrow, Alaska, for the last two years, have returned to Washington, bringing with them a large and interesting collection of birds, which they will work up during the winter and later publish the results of their investigations.

—Mr. Lucien M. Turner, U. S. Signal Observer at Ungava, Northern Labrador, has shipped to the National Museum an immense collection, embracing more than a thousand bird-skins. These will be held until Mr. Turner's return, a year or so hence, when he will prepare a report upon them to be published by the National Museum.

—Mr. Chas. H. Townsend is collecting birds, etc., for the National Museum in Northern California, the central point of his explorations being Baird, Shasta County. During the summer he ascended Mt. Shasta, and made a collection of the birds which breed on that lofty peak.

—Mr. L. Belding, who has so successfully explored the southern extremity of Lower California, is now making collections in the vicinity of San Diego.

—Mr. José C. Zeledon, of San José, Costa Rica, occasionally sends collections, including mostly new or very rare species, to the National Museum.

—Mr. C. C. Nutting has returned from a very successful reconnoissance of Nicaragua, bringing with him about one hundred and thirty species of birds new to the fauna of that country and six new to science.

—Mr. P. L. Jouy, who has been making a collection of Japanese birds for the National Museum, is now in Corea studying and collecting the birds, etc., of that little-known country.

—Mr. Wm. J. Fisher, U. S. Tidal Observer at Kadiak, Alaska, has sent collections of much interest to the National Museum, among the more noteworthy birds being the new *Œstrelata fisheri*, and another rare Petrel, the *Puffinus tenuirostris*.

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BIRDS OF THE LOWER URUGUAY.

BY WALTER B. BARROWS.

(*Continued from p. 30.*)

130. **Buteo pterocles** *Temm.* AGUILA (EAGLE).—Many individuals of this species were seen on the Arroyo Gualeguaychú the last of April, and one was secured there. Another was brought me from an estancia near town on July 2. They were usually noticed sitting very upright on the tops of tall trees, where it was almost impossible to get within shot.

131. **Buteo erythronotus** (*King*).—Many were seen on the Pampas, April 10 and 11, while travelling by diligence from Carhué to Azul. They frequently remained perched on the iron telegraph poles beside the road, allowing the coach with its ten horses to pass at full gallop within easy gunshot of them. At such times the characteristic markings were easily distinguishable.

132. **Heterospizias meridionalis** (*Lath.*). AGUILA ROJIZO (REDDISH EAGLE).—Not unfrequently seen at Concepcion in cold weather, and a single one was seen as late as September 29.

About July 21, 1880, during an almost unprecedented rise of the river, many rather scarce Hawks became quite abundant for a few days, and among them was the present species. A female, taken July 21, appeared so gorged with food that it was easily shot, but an examination showed that though its crop was crowded to its utmost capacity, it contained nothing but young grasshoppers, not a trace of other food being found in its stomach.

133. **Geranoaetus melanoleucus** (*Vieill.*). AGUILA (EAGLE). — An abundant resident at all points visited, and not at all difficult of approach. In ascending the Uruguay by steamer it is one of the most constant features of the landscape, sometimes seen sailing in circles overhead, but oftenest sitting motionless on the highest branch of some dead tree which rises from the tangled masses of lower growth on the low islands along the swampy shores. On the Pampas it was frequently observed, and on the Ventana, where it was abundant and doubtless nested, it was ridiculously familiar.

While hunting Partridges one morning, I walked directly up to one of these Eagles, as he sat on a stone gazing at me, and when, finally, at a distance of eight or ten yards, he started to fly, a charge of No. 8 shot was sufficient to stop him. The same morning another was killed in almost the same way with No. 6 shot. On March 8, while near the Ventana, a pair was seen in a plumage entirely new to me. Seen from below they were entirely glossy black, with the exception of the tips of the tail-feathers and primaries, which were pure white. If this is the normal adult plumage it must be rare, at least about Concepcion, as I never met with an example of it among over a hundred specimens observed there. Of the nesting habits I learned nothing, except that on the Ventana a pair constantly resorted to an inaccessible ledge near the summit, where I believe they must have had a nest. Döring says they nest abundantly *on the ground* along the Rio Negro of Patagonia, placing the nest usually, however, on some small eminence along the bank of the river.

134. **Accipter** *sp. incog.* A female of a species allied to *A. fuscus* was taken at Concepcion, July 14, 1880, and another individual (possibly the mate) was seen very near the same spot a few days later.

135. **Falco sparverius** *Linn.* ALCONCITO (LITTLE FALCON). — A very abundant bird at Concepcion, where a few are resident and doubtless breed, but especially plentiful in spring and autumn. I did not see its nest.

A young female taken January 21, 1880, was peculiar in having the ovaries of *both* sides equally developed, though both were small.

This species was also abundant at Bahia Blanca and along the Sierras to Carhué.

136. **Elanus leucurus** (*Vieill.*). — A rather scarce resident. I noted it only about twenty times in the course of as many months. It was oftenest seen in winter.

137. **Rostrhamus leucopygus** (*Spix*). — Apparently not common, as it was only taken twice — both times in summer and in swamps where *Ampullaria* abound.

I once saw at Concepcion a flock of fifteen or twenty small Hawks hovering over the interior of a swampy island, and presume they belong to this species as they were not "Chimangos," and I never saw any other species congregate in this way.

138. **Milvago chimango** (*Vieill.*). CHIMANGO. — By far the most abundant of the birds of prey, it being no unusual thing to have thirty or forty in sight at once. They take the place of our Crows, walking about in the plowed fields, collecting around the slaughter-houses or any dead animal in the fields, haunting the margins of the rivers, and keeping an eye on all exposed bird's nests. They are very unsuspicious, and being seldom shot at, may be approached, at almost any time and place, without any precautions. They are credited (doubtless correctly) by some writers with nesting on the ground, but this does not seem to be true of them at Concepcion. I inquired carefully of the natives, and was invariably told that they nested "like the Carrancho," in trees.

On September 26, I saw a pair carrying sticks to a tree in which there was a partly completed nest, but the birds dropped the sticks on finding themselves observed. Again on November 6, I found in a tree a nest of sticks in which were the shells of several eggs precisely like those brought me by natives as veritable eggs of the Chimango, as I believe they were.

Considering the abundance of the birds, and their familiarity, it seemed strange to me that although I frequently searched in many localities, both on the ground and in trees, I never discovered an occupied nest of this species. As before stated, however, during the spring months I was often unable to give more than half a day per week to field work, and this will, perhaps, account for many oversights with regard even to common birds. The eggs which I obtained were miniatures of those of the following species.

139. **Polyborus tharus** (*Mol.*). CARRANCHO (meaning unknown). — Abundant and well known everywhere, but appearing

in unusual numbers wherever the food supply is suddenly increased, as for example, during those periodic overflows of the river to which the name *creciente* is given. When the rise is quite sudden the destruction of small quadrupeds is very great. and the Carranchos are very sure to be on hand. The regular *creciente* occurs usually in October, and the river then rises gradually to a height of five or six feet above its usual mark, and in the course of a week or two, subsides again quietly. In July, 1880, however, the river rose quite suddenly until it reached a point some twelve feet above low-water mark. As a result hundreds of square miles of low land were flooded, and in many places the water extended backward along the smaller affluents for many miles, doing considerable damage to stock, etc. Of course there was a general exodus of "all four-footed beasts and creeping things" from the flooded district. Along the edge of the water thousands of the little cavias scampered in dismay, while the bodies of thousands of others were thrown up to the waiting Carranchos, which stalked along the shore by hundreds. Wild cattle which had been hiding for years in the swamps were now forced to come ashore and take their turn under the lazo, while many a rare deer and rarer jaguar fell victim to the rifle of the estanciero. For a week or two the unequal struggle went on, and then the receding waters allowed the survivors to return to their old haunts, if they could find them, while the estanciero quietly counted his bundles of new hides and wished the river would rise every year to the same height.

While the high water lasted the Carranchos, gorged with carrion, and naturally heavy and sluggish, were almost as tame as barn-yard fowls, and there was abundant opportunity for any one so disposed to study their disgusting habits and make his series of skins as large as he pleased. I respectfully declined the offer, so far as the skins were concerned, preferring to keep my entomological and ornithological collections separate so far as practicable.

Although feeding frequently on carrion, the birds evidently appreciate fresh meat as well. I once had hard work to prevent a Teal, which had fallen in the water, from being carried off by one, and though I did succeed in this case I was less fortunate at other times. While shooting Ducks along the Piqué in March I killed a beautiful pair of Cinnamon Teal, and wishing to keep them clean and unruffled, to be skinned later, I laid them somewhat out of sight among the pampas grass, intending to take them on my return in half an hour. At that time, however, I found only a couple of Carranchos, each seated sleepily in the midst of a little circle of brown feathers, amongst which not the smallest morsel of skin, flesh, or bone was to be found.

The eggs were laid at Concepcion from the middle of September until late in November. They vary very much in color, but the average egg showed little trace of the original ground-color, being simply mottled with heavy dashes, spots, and blotches of several shades of brown. Eggs average 2¼ in. by 1¾ in. The bulky nests were sometimes placed quite low on the tops of low, spreading trees, one which I found being only eight feet from the ground. More often, however, the nest is placed at a height of from twenty to forty feet.

140. **Cathartes atratus** (*Bartr.*). CUERVO (CROW). — Not seen at all at Conception, but said to have been very numerous in times of drought, when the sheep died faster than they could be skinned. It was occasionally seen in small numbers about the Sierras of the Pampas, the last being seen at Carhué, April 4.

On the Uruguay it was always spoken of as the *Cuervo* (Crow; Raven), but about Buenos Aires the commoner name was *Gallinaza* (Vulture).

NOTE. — I am not sure that I ever saw *Cathartes aura*, not being familiar with its appearance on the wing, but I find the following in my note-book, under date of March 4, 1880, while camped at the foot of the Sierra de la Ventana.

"Several times since camping here, I have seen a very large bird which seems to be larger in body than the common Eagle (*G. melanoleucus*) and with a very long tail. They hunt over the mountains as well as the level ground, and rise in spirals nearly as well as *Haliaetus*." I remember that when attacked by a pair of the latter, which probably had an eyrie among the crags near by, they soon distanced them by rising in spirals, though both species did considerable flapping before the Eagles abandoned the pursuit. I thought at the time, and am still inclined to believe, that this bird was *Cathartes aura*.

(*To be continued.*)

ON CHANGES IN ORNITHOLOGICAL NOMENCLATURE—A REPLY TO CRITICS.

BY LEONHARD STEJNEGER.

"Consistency is a jewel."—Dr. E. COUES.

A SHORT paper of mine, published about a year ago, entitled: 'On some generic and specific appellations of North American and European birds,'* was intended to furnish such data as might be properly considered in studying the nomenclature of North American and European birds. It has caused considerable comment, and two courteous editorials—one in the 'Bulletin of the Nuttall Ornithological Club' (VI. 1882, p. 178), and the other in 'The Ibis' (1883, p. 116)—have passed several remarks upon it, which make an answer from me desirable. My excuse for presenting a reply so late is that I have but recently returned from my journey to the Commander Islands and Kamtschatka.

The American reviewer admits that a principle, like that which I want rigorously enforced, is most likely to bring the now almost overpowering confusion to an end. He says: "We believe that the surest way out of the nomenclatural difficulties that beset us is to be found in some such simple rule as this, and that to upset every name that can be upset according to any recognized principle is really the shortest road to that fixity of nomenclature for which we now all sigh like furnaces." But nevertheless he thinks that there ought to be a statute of limitation, "by which a bird resting in undisturbed enjoyment of its name for, say, a century, or half a century, should not be liable to eviction under the common law of priority."

Now, in the first place I wish to emphasize that a law, may it be ever so good, will never bring the longed-for result, unless enforced rigorously; that is, *without exception*. If the law prohibiting changes of names which have been in use for fifty years, shall be applied to changes proposed by me, it must also be applied to changes proposed by other authors. If we take the two leading lists of North American birds, Coues's and Ridgway's, we shall find many names which will have to be given up. I will only mention a few examples, in order not to swell this paper, as everybody who is somewhat familiar with the subject can easily make considerable additions to the list. We then would have to drop :—

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* Proc. U. S. Nat. Mus. V, 1882, pp. 28-43.

Alle nigricans	for	*Mergulus alle.*
Simorhynchus pygmæus	"	*S. camtschaticus.*
Colymbus torquatus	"	*C. glacialis.*
Histrionicus minutus	"	*Cosmonetta histrionica.*
Cygnus columbianus	"	*C. americanus.*
Asio accipitrinus	"	*A. brachyotus.*
Pinicola enucleator	"	*Corythus enucleator.*
Pica rustica	"	*P. caudata*, etc., etc.*

What under such circumstances would be the fate of Bartram's names, such as *Elanus glaucus* (Bartr.) Coues, *Ictinia subcærulea* (Bartr.) Coues, *Corvus frugivorus* Bartr., *Spizella agrestis* (Bartr.) Coues, *Botaurus mugitans* (Bartr.) Coues, *Aramus pictus* (Bartr.) Coues, etc., etc.? Are we going to give up again Forster's names of 1772? And how about those of Philip Statius Müller restored by Cassin, or the numerous names of Boddaert?

Another question presents itself in this connection : How are we then going to deal with names that have for more than half a century been wrongly identified? Thus, for instance, to cite one of my proposed changes, *Totanus glottis*, which Coues still gives as "(L.) Bechst.," although it seems evident that Linneus's and Bechstein's *glottis* are two widely different birds? Some European authors, not long ago—and most certainly more than fifty years after Bechstein's mistake—adopted Gmelin's name *cinerascens;* but why not accept Gunnerus's name, which is older, better defined, and in every other respect at least just as good? "The long survival of an error does not justify its continued perpetuation after detection," says Dr. E. Coues (Check List, 2d ed., p. 24) ; and that is precisely my opinion, too.

The American reviewer thinks that a law as above is but just, as these early authors, whose nomenclature is forgotten, have not taken "the trouble to make good their title in due time." But whose fault is it that the names have been temporarily

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* Not to speak of *Hydrochelidon lariformis*, which for other reasons is rejected in my paper.

Turning to my English reviewer, I want especially to call attention to the fact that there are many points in ornithological nomenclature wherein the English naturalists are compelled to disagree with a great many zoölogists, especially with those of North America, who, with only few exceptions, take Linnæus's 10th edition for their nomenclatural starting-point, while the former still strictly adhere to the 12th edition.

But there are two points in the 'Ibis' review which can be discussed with advantage, as they have nothing to do with the vexed question about the two Linnæan editions. In a foot-note the editors give their reasons why they feel justified in continuing the use of the universally adopted *Plectrophanes* for *Emberiza nivalis*, and not accepting for the latter the term *Plectrophenax* proposed by me. They say: "Although it is quite true that, in the preface to his Vögel Liv- und Esthland (1815), Meyer casually mentioned the term *Plectrophanes* as applicable to *Fringilla lapponica* ONLY, we find, on reference to the 'Zusätze u. Bericht. zu Meyer und Wolf's Taschenbuch,' 1822 (in which the genus was first properly characterized), that *Plectrophanes* was intended to include both *Fringilla lapponica* and *Emberiza nivalis*."

When Bechstein, in 1803, created the division *Calcarius* (a term also used by him in 1807, in the 2d edit. of his 'Gemeinn. Naturg. Deutschl.,' III, p. 245) he considered *lapponicus* and *nivalis* generically distinct. He included the former under *Calcarius*, for which genus *lapponicus* consequently is the type.* In his later books he followed the same practice. In 1810 Meyer and Wolf strictly followed the example of Bechstein, separating *lapponicus* from the body of the genus *Fringilla* as a separate 'family,' as they called it, still leaving *nivalis* under *Emberiza*. In 1815 Meyer, however, recognized *lapponicus* as a separate genus in the most binding words: "gehört keineswegs zu der Gattung Fringilla, sondern muss eine eigene Gattung bilden; ich nenne sie Plectrophanes, Sporner"; but he treats *nivalis* under *Emberiza*, *thus evidently showing that* Plectrophanes *was* NOT *intended to include both* lapponica *and* nivalis, as the Editors of 'The Ibis' state. It is moreover not correct to say that the genus was not properly characterized before 1822. Bechstein had already 'properly characterized' *Calcarius* in 1803, and we have seen that there cannot be the direction, by the recollection that certain *Fasti* of my honored predecessor in his particular line of work, whose title I have had the presumption to revive, were received with wry faces and shrugs—and received, nevertheless. I am perfectly satisfied to let my own be tested in the crucible of time." His words are written as out of my own heart, and fit my case like a glove. Dr. Coues's innovations were also met with wry faces and shrugs —and received nevertheless, and this I trust will be the fate of my 'innovations' too.

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* Authors regarding *nivalis* as being congeneric with *lapponicus* will therefore have to adopt the combination *Calcarius nivalis* (Lin.).

Lastly, my esteemed critic asks if I have "in all cases taken up names which rest upon diagnoses," and further, if "indication of a type species makes a generic name valid."

As all the proposed changes of the specific names rest upon descriptions, most of them being for the time even very good, both the above questions refer to the generic appellations. As the second question is the more comprehensive, I take it first, and say that, at the present time at least, it is the usually followed rule to allow generic names, even if without diagnosis, when only their type can be ascertained. I could mention plenty of examples from Dr. Coues's latest check-list, Ridgway's list, Dresser's list, British Ornithologists' Union's list, and probably from the greater part of authors. From the last mentioned list I will only cite one example, *Erithacus* Cuv., 1799-1800, as it is an exact counterpart of one of the least approved of my proposals, viz., *Urinator* Cuv. Not less opposition will meet the proposed substitution of Forster's names of the Swallows for those of Boie. But *both of them, Boie as well as Forster*, give only types, no descriptions or diagnoses. It will in this connection be well to remember that in fact almost all of Boie's genera rest only upon mention of the types without descriptions, and so do Brehm's in 'Isis,' 1828; so do a great part of Bonaparte's, Reichenbach's, and Gray's genera, besides plenty of others. Practically we may say the same about Kaup's genera of 1829, and, in fact, about those of most of the old writers, as their diagnoses of the genera—as well as Linnæus's—for a great part would be completely unrecognizable if not accompanied by typical species. I think that the question about the validity of genera has got the best answer in the fact that it in most cases, especially among the older authors, is easier to determine the identity of a genus name with type species only, than with diagnosis only.

"168. *Tringa Merula.* Le Merle-d'eau. **Wasseramsel.**

Tringa superne fusco-nigricans; genis, gutture, collo inferiore et pectore niveis; ventre supremo fusco-rufescente, imo ventre, rectricibusque nigricantibus.

Mus. Schaeffer. No. 68.
Briss. Av. V. 252. 19. Le Merle d'eau.
Linn. S. N. 12. 290. 5. Sturnus cinclus.
Scop. Bemerk. n. 223. **Die Wasseramsel.**"

On p. 49 of the same work we find: —

"161. *Vanellus capella.* Le Vanneau. **Gybitz.**

Vanellus cristatus, superne viridi aureus, inferne albus; capite superiore nigro-viridante; crista nigra; taenia infra oculos nigricante; gutture albo; collo inferiore nigro viridante, pennis in apice albo fimbriatis; rectricibus decem intermediis prima medietate candidis, altera nigris, apice albido marginatis, utrinque extima candida, macula nigra interius insignata.

Mus. Schaeffer. No. 7.
Briss. Av. V. 94. I t. 8. f. 1. Le Vanneau.
Linn. S. N. 12. 248.2. Tringa Vanellus.
Frisch. Av. 213. Vanellus. **Kywitz.**
Schaeff. Orn. t. 69.
Naturf. XIII, St. p. 215. n. 122. **Der Kiebitz.**
Scop. **Bemerk.** n. 141. **Der Kybitz.**"

Washington, D. C., December 7, 1883.

A SECOND SEASON IN TEXAS.*

BY NATHAN CLIFFORD BROWN.

IN the winter of 1882-1883, the writer made a second visit to the village of Boerne, in Southwestern Texas, and devoted the ten weeks subsequent to January 27, 1883, to field work amongst the birds of the vicinity. Throughout this period the country presented an appearance very different from that familiar in 1880: instead of desolate expanses of bare earth, a green sward was almost everywhere to be seen; in the fields were rank growths of frost-killed weeds; and along the creek were patches of coarse grasses and even occasional little sedgy morasses. The creek itself, which during the season of 1880 only at long intervals accumulated a sufficient volume of water to flow with an

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* See Bull. Nutt. Orn. Club, Vol. VII, pp. 33-42.

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BIRDS OF THE LOWER URUGUAY.

BY WALTER B. BARROWS.

(*Continued from p. 30.*)

130. **Buteo pterocles** *Temm.* AGUILA (EAGLE).—Many individuals of this species were seen on the Arroyo Gualeguaychú the last of April, and one was secured there. Another was brought me from an estancia near town on July 2. They were usually noticed sitting very upright on the tops of tall trees, where it was almost impossible to get within shot.

131. **Buteo erythronotus** (*King*).—Many were seen on the Pampas, April 10 and 11, while travelling by diligence from Carhué to Azul. They frequently remained perched on the iron telegraph poles beside the road, allowing the coach with its ten horses to pass at full gallop within easy gunshot of them. At such times the characteristic markings were easily distinguishable.

132. **Heterospizias meridionalis** (*Lath.*). AGUILA ROJIZO (REDDISH EAGLE).—Not unfrequently seen at Concepcion in cold weather, and a single one was seen as late as September 29.

About July 21, 1880, during an almost unprecedented rise of the river, many rather scarce Hawks became quite abundant for a few days, and among them was the present species. A female, taken July 21, appeared so gorged with food that it was easily

The Californian Bluebird does not appear to have been met with in Texas before, and I find but one record of its occurrence so far east as the ninety-ninth meridian, in the United States at large.*

3. **Lanivireo solitarius** (*Vieill.*) *Bd.* SOLITARY VIREO.—One specimen (♀), procured from a company of Chickadees, Kinglets, and other small birds, in a post-oak grove, February 3. The testimony of all collectors in Texas indicates the rarity of this species in the State. So far as I am aware, it has not hitherto been detected in winter.

4. **Zonotrichia albicollis** (*Gm.*) *Bp.* WHITE-THROATED SPARROW.—One specimen taken, March 9; others seen upon March 30 and April 6. Boerne is far to the south and west of the ordinary habitat of this Sparrow, which has not before been taken in Texas limits and but once attributed to the State. Dr. Merrill states † that he heard its unmistakable song at Fort Brown, on May 11, 1877.

5. **Spizella socialis** (*nec arizonæ*) (*Wils.*) *Bp.* CHIPPING SPARROW.—Apparently common. Several taken.

6. **Pyrrhuloxia sinuata** *Bon.* TEXAS CARDINAL.—Two specimens—a female, February 2, and a male, April 5—procured in bushes along the creek. These captures considerably extend the known range of the species in the State, but few examples having been noted north of the Rio Grande valley.

7. **Tyrannus carolinensis** (*Linn.*) *Temm.* KINGBIRD.—One specimen, April 4.

8. **Sayornis sayi** (*Bon.*) *Baird.* SAY'S PEWEE.—On the morning of February 5, during the prevalence of a severe norther, several of this species, accompanied by other birds, were found under the lee of a stone-wall, near the creek, and one was secured. On the following day a solitary individual was seen and obtained. Both birds were much emaciated.

9. **Picus pubescens** *Linn.* DOWNY WOODPECKER.—A single specimen, February 3.

10. **Circus hudsonius** (*Linn.*) *Vieill.* MARSH HAWK.—A female seen on March 16; an adult male on March 27.

11. **Nyctiardea grisea nævia** (*Bodd.*) *Allen.* NIGHT HERON.—An immature female, taken February 2.

12. **Podilymbus podiceps** (*Linn.*) *Lawr.* THICK-BILLED GREBE.—During the latter part of March, several individuals were noted in the Boerne Mill-pond. On March 21, a specimen in winter plumage was killed and presented to me by a local sportsman.

13. **Anas boschas** *Linn.* MALLARD.—Occasionally seen in small flocks or singly.

Of the six species seen but unsatisfactorily identified in 1880, two (*Ictinia subcærulea?* and *Larus ——?*) were not met with; two (—*Strix nebulosa?* and *Buteo abbreviatus?*) were seen but not secured, and two were identified by capture, viz.:—

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* See Hatch, Birds of Minnesota, Ann. Rep. State Geologist, 1880 (?), p. 361.

† Proc. U. S. Nat. Mus., 1878, p. 126.

1. **Trochilus alexandri** *Bourc. & Muls.* BLACK-CHINNED HUMMING-BIRD. — I procured a single male specimen of this diminutive species on April 5. No others were seen during my stay. There is no previous record of the bird's occurrence in Texas other than Mr. Purdie's,* which notes the capture of two examples in Gillespie and San Saba Counties, in April, 1878. The distribution of the species in Arizona and Utah, however, renders it probable that it is not a rare summer resident in the present locality.

2. **Buteo borealis** (*Gm.*) *Vieill.* RED-TAILED HAWK. — Some half-dozen pairs of Red-tailed Hawks were found to be resident in the immediate vicinity of the village. Two fresh eggs were taken on March 22, the nest being placed about forty feet from the ground, in a somewhat swampy growth of hard-wood trees.

The two skins in the collection are intermediate between *borealis* proper and var. *krideri*, and, without specimens of the latter form for comparison, it is somewhat difficult to decide under which name they should be included. Upon the whole, however, they appear most closely allied to *borealis*. The dorsal coloration is not appreciably different from that of Maine examples, and the same is true of the ground-color of the underparts. The streaks upon the throat and abdomen are fewer, narrower, and paler than in the eastern birds, and there are no rufous markings upon the breast. The tail in both of the Texas specimens is of a pale, dull rufous; that of one (♂) is crossed, except upon the central two feathers, where it is only indicated, by the subterminal black band of *borealis*; that of the other (♀) has this band only outlined by obscure and irregular spots.

Mr. Dresser found the Red-tailed Hawk abundant throughout Texas, but it was not met with at all by Mr. Sennett nor by Dr. Nehrling, and Dr. Merrill speaks of having seen only a single pair.

In the collection of 1883, as in that of the former season, are many aberrant specimens, the varietal position of which cannot be definitively fixed but must depend upon the taste of the student. The additional material before me does not seem to require a change of previous identification, except in one instance. I now believe the western form of the Robin (var. *propinqua*) to have been included in my list upon insufficient evidence, all of the specimens from Boerne being nearer *migratoria* proper,† of which some of them are typical.

A very curious lot are the Horned Larks (*Eremophilæ*) from this locality. I am far from satisfied to let them stand as var. *chrysolæma*, but after much study of the specimens and a careful examination of many others from different parts of North America, including the entire series of the Smithsonian Institution, I find myself unable to dispose of them in any more satisfactory manner. The creation of a new race appears wholly unjustifiable, owing to the confusion in the literature of the species, the instability of the races at present recognized, and the very great individual variation that prevails amongst birds from the same locality. A final resting-place for the many puzzling specimens from the West will be found only after such a thorough overhauling of the genus *Eremophila* as cannot be based upon existing material.

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* See Bull. Nutt. Orn. Club, Vol. IV, p. 60.

† My attention was called to the probability of this fact, at the time a different identification was decided upon, by Mr. William Brewster.

NOTES ON THE NESTING HABITS OF THE YELLOW-THROATED VIREO (*LANIVIREO FLAVIFRONS*).

BY N. S. GOSS.

On the 9th of May, 1877, I found in the timber near Neosho Falls, Kansas, a nest of this bird (a pendant one, as are all the Vireos' nests I have found) attached to branches of a very small horizontal limb of a large hickory tree, about twenty feet from the ground, and ten feet below the limbs that formed the top of the tree. In the forks of the tree the Cooper's Hawks were nesting, and I discovered the Vireo and its nest in watching the Hawks — or rather the man I had hired to climb the tree to the Hawk's nest. The little bird at first flew off, but on his near approach returned and suffered him to bend the limb towards the tree and cover her with his hand on the nest. The twig was quickly broken and the bird and nest lowered by a line, in a small covered basket taken to collect the eggs of the Hawk. Such manifestations of courage and love, so rare and exceptional, touched me to the heart, and it was hard to make up my mind to rob and kill the bird and her mate, scolding in the tree-top. I can only offer in extenuation that they were the first I had met with in this State, and the *strong* desire to have them in my collection. The nest was made of, and fastened to the limb with, silk-like threads and bits of cotton from plants, fastened together by saliva and partially covered or dotted over with lichen, and lined with small stems of weeds and grass. The beautiful nest was in plain sight, there being nothing near to hide it from view. It contained three eggs and also one of the Cow Blackbird (*Molothus ater*). One of the eggs was broken by the bird in her struggle to escape from the collector's grasp while in the nest. The color of the eggs was pure white, with a few scattering, small spots of reddish-brown towards the large end. They each measure .79 × .58 of an inch. Four taken from another nest (a full set) measure .78 × .57; .80 × .58; .79 × .58; .78 × .57.

I have since noticed these birds in the woodlands on several occasions, and on the 18th of May, 1883, while strolling along the south bank of the Kansas River, near Topeka, in the timber skirting the stream, I had the pleasure to find a pair of them building a nest in a honey locust, about sixteen feet from the ground, and eight feet from the body of the tree. The nest was fastened to the forks of a small horizontal branch. The frame of the nest appeared to be completed. The birds were busy at work, the female lining the nest with small hair-like stems, the male covering the outside with soft lint-like fibrous strips from plants (these closely resembling the limb and its surroundings), and dotting it over with lichen. Happy in the thought that he was not only beautifying the home of his lady bird, but protecting her from view by his artistic skill (notwithstanding the fact that she had selected an open and exposed position), he could not refrain from expressing his joy at intervals during the work in snatches of his sweetest notes. The female, more watchful, sighted me and gave notice of the intrusion. Quick as thought the birds were away. The male, alighting near the top of an adjoining tree, at once poured forth his song in loudest notes, no doubt thinking that by attracting my attention to him I would lose sight of the nest. Knowing it was now too late for concealment, and that any attempt to hide away would only increase their suspicions and stop or delay the work, I carelessly walked nearer, in order to have a better view, and lay down on my back in an open space. In a short time the female returned, hopped about in the tree, inspected me closely from the lower limbs, and then flew away and returned several times before bringing material or venturing to approach the nest. But the moment she did so, the song of the male ceased and the work of building was actively resumed. As the female stood upon the top of the nest, with head down and inside, I could not see the manner of arranging the lining; but as she kept walking around upon the rim, I could, in imagination, see her plaiting and weaving in and out the hair-like stems. It was very easy and interesting, however, to see and note the actions of the male, as he deftly worked the material into the framework, running the longer fibrous thread-like strips through and then quickly springing upon the top and fastening them on the inside. Then he would re-arrange the outside, stopping a moment to inspect the work, and then off in search of more material, occasionally warbling a few notes on the way; but he was silent at the nest, while I remained so near.

At the rate their work was progressing, I think the nest would have been completed during the day. I do not know that it is the usual custom for the female to confine her labor to the plain and necessary work, and the male to the decorative and ornamental parts, but it was so in this case. It may be that the time of laying was near at hand, and that the female felt the pressing necessity for the completion of the interior, for, in such cases, I have seen nests of birds enlarged and completed by the males while the females were sitting upon their treasures.

A STUDY OF THE SINGING OF OUR BIRDS.*

BY EUGENE P. BICKNELL.

CONSIDERATION OF SPECIES.

Turdus migratorius. ROBIN.

As a general rule our summer song-birds come to us in the spring in full voice; but an exception is often made by the Robin. As a few Robins may be with us all winter, it is not always easy to tell just when the first spring birds come; but the observations of several years clearly show that, as a rule, first arrivals are songless. But singing is rarely delayed after the migration has well begun; and when this has been retarded by untoward weather, and finally starts with full volume, then the advance guard are usually song-bearers. My records show a range of over three weeks in the time of the beginning of song in different years, from February 27 to March 21. Both of these dates are, however, exceptional, and represent the extremes of an early and late season. Usually singing begins during the second week of March.

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* Continued from p. 71.

The Robin continues well in song up to the middle of July, after which there is usually a perceptible decrease in the number of singing birds, and the time of singing becomes more restricted to the marginal hours of the day. My notes of the singing of the Robin in August, though usually extending through the month, rarely form more than a disconnected record. The inclination towards song is now declining, and it depends, during the first part of the month largely, and during the latter part entirely upon favorable conditions, whether there be any song at all. Thus in a season of drought occasional brief songs in the early hours on favorable days, with intervals of silence, may fill out the record of the month, whereas a reasonably consecutive record will result from a cool and wet season.

September is eminently their month of silence. Their primary song-period may extend feebly beyond the end of August, and rarely an imperfect song may be heard in the following month, but until its latter days silence, excepting the ordinary call notes, is the general rule.

The secondary song-period is introduced with much regularity in different years in the last days of September. From 1878-81, my record runs: September 27, 26, 28, 25. But unfavorable weather may postpone the beginning of the second song-period until October. The first songs are usually subdued and broken, but soon acquire the normal character, and sometimes continue with little interruption through the month of October; but again there may be an almost complete intermission between the first or second and final week of the month. Sometimes when this is the case, multitudes of the birds arrive from the north about the third quarter of the month, bringing song with them, and in the last week, if the weather be damp and cloudy, numbers may be heard singing with almost the freshness and vigor which characterises their song in April.

When the vast numbers of Robins which pass southward at this season have departed, the species rapidly becomes uncommon. Dates of last songs fall between October 21 and November 1. In two years I have no record later than the 8th, but it seems not unlikely that in these years transient final days of song were missed. It is, however, not improbable that, if subsequent to the beginning of autumn song the weather should prove unfavorable, the second song-period may be allowed to lapse.

Through the latter part of August many Robins may be seen flying about, minus remiges and rectrices, in varying number. Adults of both sexes taken in the second week of October have the new plumage perfected with the exception of some of the smaller feathers.

Turdus mustelinus. Wood Thrush.

This most admirable song-bird is in voice from its arrival, in late April or early May, until about the middle of August. But towards the end of July singing becomes less universal with members of the species, and soon after has come to be inconstant and confined to the earlier and later hours of the day. Songs are usually to be heard through the first week of August, and sometimes for a week later (August 6-15), when singing somewhat abruptly ceases, seven or eight weeks before the final departure of the species.*

After the cessation of singing these Thrushes become shy and inactive, affecting the most retired parts of the woods, and only the careful observer will discover that they have not disappeared. Even their call-notes almost have been discontinued, and when heard are so low in tone and so brief as almost to seem as if accidentally uttered. Before their departure, however, though they do not again sing, voice is partially regained; and in October, even so late as the middle, or rarely last of the month, their call-notes may sometimes be heard uttered with the same vehemence as in the spring.

The suspension of song by this bird during two months preceding its departure can be accounted for, according to the probabilities earlier adduced, by physiological activities antagonistic to song operating during that time. In late August adults are covered with growing feathers and without fat. In mid-September some, at least, show a nearly perfected plumage, with areas of fat beginning to accumulate; and individuals may be found almost a month later with the renewal of plumage still incomplete; such, perhaps, are birds of the year. It would appear from these facts that the impulse to song is first interrupted by the moult, and further suppressed by the supervening adipose condition.

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*An exceptionally late date for song is August 23, 1883. On that day I for some minutes listened to the singing of a Wood Thrush which was of a very unusual character. Though all the notes of the normal song were given, they were so faintly uttered and separated by such distinct pauses, as to make it seem probable that they resulted from the first trial of a young bird.

• **Turdus fuscescens.** WILSON'S THRUSH.

Contrary to what we find to be true of most of our summer birds, the Wilson's Thrush seems often to remain silent for some days after its arrival in the spring; although this is not invariably the case.

Though it comes to us but little later than the Wood Thrush, its song in some years may not be heard until two weeks after that of the latter bird; and yet we lose it fully a month earlier. With the Wilson's Thrush singing continues regularly through the month of June and into the early part of July, but after this time is not commonly heard, and soon has entirely ceased. For several years dates of final songs have been entered in my books between July 10 and 15; though a single song may sometimes be heard later in the month. July 21, 22, and 26 are the latest dates that I have recorded. Often in the first, or even second week of July, though singing is so soon to cease, the vocal impulse seems to be at its height, and our thick swamps and low woods sound with the continually reiterated songs of numbers of these fine-voiced Thrushes. These birds are so much oftener heard than seen that after they have become silent they are not often observed: but not until the end of September have they all left us.

By the end of August the plumage has been renewed and the birds are very fat. But specimens may be taken at this time, and, indeed, through September, showing a slight activity of feather-growth.

Turdus ustulatus swainsoni. OLIVE-BACKED THRUSH.

This Thrush is in full song during its spring migration, which occupies the latter half or two-thirds of May, but is commonly silent in the autumn. It is, however, probable that singing may occasionally be indulged in that season, for I was assured by one who was familiar with the song of the species, that several were heard singing at Bay Ridge, Long Island, September 26, 1880, at the height of their migration.

On their arrival in September the new plumage has not always completed its growth. In many specimens growing feathers are scattered over the body, and often some of the remiges have their bases still soft, or even sheathed by the matrix of the feather. When the birds first appear they have begun to develop adipose tissue, and it is not long before they become excessively fat.

Turdus aliciæ. GRAY-CHEEKED THRUSH.

To this species almost the same remarks apply as to the last-mentioned, except that it appears disposed to tarry a little longer in the spring; consequently its song may sometimes be heard a few days later. It is occasionally in song with us through the first week of June,—that is, I have heard it up to June 4.

I am well satisfied that the songs of the Gray-cheeked and Olive-backed Thrushes are not alike; in fact that they are as distinct from one another as from the songs of the other small Thrushes.

During recent seasons particular attention was paid to the songs of these birds, and a clear difference between the songs of individuals of each proved to be constant, so far as limited observation went. As a result of my experience with these birds, I have little hesitation in characterizing the song of the Gray-cheeked Thrush as weaker than that of the Olive-backed, entirely dissimilar in tone, and with a somewhat different disposition of the notes. Instead of musically outbursting, it is singularly subdued, and has a far-away and rather ventriloquial sound. It seems more the expression of some distant emotion revived in memory than of a suddenly felt present emotion which the song of the Olive-backed Thrush suggests.

The song of the latter bird is louder, more spontaneous and lyrical. Almost the first note is the loudest and most liquid, after which the melody becomes rapidly fainter, seeming to dissolve upon the air like the spent vibrations of a stringed instrument.

The song of the Gray-cheeked Thrush commences low and reaches its loudest, and I think its highest, part a little beyond half its continuance. It is throughout much fainter and of less forcible delivery than the song of the Olive-backed species.

Turdus nanus. HERMIT THRUSH.

Though this little Thrush is always to be found with us during its migrations, it was only after some years of observation that I discovered that it ever sang near the sea-coast in this latitude. Either it is very furtive-voiced while it is with us, or singing is exceptional. Twice only have I heard its song away from its summer home,—on April 26, 1878, and April 29, 1879. In both cases the songs were faint and of an unfinished character, and positive identification only satisfied me that they were of this species. It is probable that this Thrush sings occasionally in the autumn; for there is little doubt that I heard it on October 18, 1880. It was in the dusk of the early morning, and the song, though several times repeated, was not clearly heard. It was, however, from a *Hylocichla*, and sounded most like that of the Hermit Thrush, the only one of the smaller Thrushes which was present at the time in any numbers.

The call-note of the Hermit Thrush is very different from that of any other species of its group which occurs with us. It is a low *chuck*, suggestive of the note of a distant Blackbird. The Hermit Thrush possesses the singular habit of demurely raising its tail and allowing it to fall back slowly to its natural position; this strange movement recurs at intervals and often follows the act of perching. Does it bear any relation to the characteristic caudal activity of the Water-thrushes and some of the Warblers?

Mimus polyglottus. MOCKINGBIRD.

I observed a Mockingbird by the Harlem River on October 10, 1880, my attention being attracted to it by a few notes of its song, which would doubtless have been continued had not the bird been startled. The species is of casual occurrence in the locality of my observations, but on no other occasion have I heard any sound from it save a sharp alarm note.

Mimus carolinensis. CATBIRD.

The Catbird sings from its arrival — late April or early May — through July, but with decreasing regularity towards the end of the month; and in one or two years I have not heard it later. Usually singing is abandoned shortly after the beginning of August, but sometimes individuals continue in song quite to the middle of the month.

Though the species remains well into October, and is sometimes to be numbered among the loiterers of the following month, during all this time no music escapes it. Careless and extravagant with his powers when they are in easy possession, this talented musician has lost them at a time when they would be most appreciated, and naturally less capable performers succeed it.

Besides its song, and the well-known call-note that has conferred its name, the Catbird has another characteristic vocal accomplishment — a short, sharp, crackling sound, like the snapping of small fagots. This is not often heard before the dog-days, but in late summer is sometimes frequent. Usually it is an accompaniment of rapid action as the bird seeks the security of some bushy patch or darts into the thick cover along the road.

Harporhynchus rufus. BROWN THRUSH.

The singing-season of this species, beginning with its arrival in April, scarcely lasts through the first week of July, though isolated dates of the singing of single birds extend almost to the end of the month. In my records I find no series of reasonably uninterrupted dates continuing later than the first third of July, but in different years single birds in full song have been heard from the 18th to the 26th of that month. Thus in one year a perfect song on July 18 was the first heard since the 5th, and in another year songs on the 6th and 10th were the last heard except one on the 20th. This mis-timed singing must result either from abnormal variation in the singing-time or mere individual caprice.

The species appears not to possess a second song-period; but on September 8, 1881. I heard a few song-notes uttered by one of several birds which were regaling themselves on the fruit of a large gum tree (*Nyssa*).

Sialia sialis. BLUEBIRD.

This beautiful and domestic species evinces a most impressionable temperament, which responds with song to the faintest suggestion of returning spring, and with silence to the earliest foretastes of the sultriness and heat of summer. Its melody is the first that comes to us with the new year, and is of those which we earliest lose. So sensitive, indeed, is the Bluebird to the slightest vernal influence that its cheerful warbling is often sadly out of season, as when it is called forth by a mild, suggestive day in January, or even in December.

It might appear to be an open question whether these midwinter songs are those concluding autumn singing or those inaugurating the musical celebration of the spring. The truth is that they result from the over-strained imaginations of too eager lovers; and thus we get spring songs before the winter solstice.

Within the last seven years the dates of introductory songs have ranged between December 18 and February 10. According to the character of the winter, continued song may date directly from its introduction or be delayed, with occasional efforts occupying the interim, until spring becomes more assertive; but singing seems rarely or never to be postponed beyond the final winter month.

March is pre-eminently the month of song. Before April has ended their ardor has perceptibly waned, a change which progresses through May; and sometimes in this, as in the following month, singing is so infrequent that often it seems to be suspended, as it actually is in July. Sometimes no song will be heard in this month; again, isolated songs occur almost to its close.

I do not find that I have any record of the Bluebird singing in August; but undoubtedly its song is to be heard in every month of the year. From early July until about mid-September is a time of general silence; sometimes this is broken in the first week of September, sometimes not until the last of the month.

Singing seems to be rather inconstant in the fall, but usually after the second week of September the cheerful warbling that we have missed since June may occasionally again be heard until the end of the following month. But I have no November record.

Regulus calendula. RUBY-CROWNED KINGLET.

This little bird sings regularly while it is with us in the spring and fall. In spring its song dates from its first arrival (earliest record, April 7), and is frequent until the majority of the birds have passed northward. Shortly after it has last been heard (latest record, May 1), the species has disappeared; but sometimes the last song gives the last record of its presence.

After their re-appearance in September these birds usually remain silent for a week or more — in a few instances I have heard the song on the day of arrival — after which their song may be heard at any time before the final days of their stay. Autumnal data of their singing are comprised between September 20 and October 21. If, however, the species be uncommon the song may not be heard at all in the latter month.

Though the smallest of our song-birds, and—excepting the Hummer and its own near relative, the Golden-crowned Kinglet— the least of all the birds that visit us, the Ruby-crowned Kinglet possesses marked vocal power. Its clearly whistled and cheerfully modulated warble would not be a discreditable performance from a much larger bird.

Its ordinary notes are short and sharp, and though not loud may, under the influence of excitement, be prolonged into a harsh Wren-like chatter.

Regulus satrapa. GOLDEN-CROWNED KINGLET.

Although this species has been accredited with decided musical ability, I have never heard from it a closer approach to song than a faint chirping, interspersed with weak, tremulous notes. These, however, though never to be mistaken for song, are not wholly devoid of melody, and are at times pleasantly tintinabulous. These notes are the bird's chief vocal expression while it is with us in fall, winter, and spring, and differ greatly from the quick stridulous call-notes of its ruby-crowned relative.

Lophophanes bicolor. TUFTED TITMOUSE.

I have already given the only facts that I have acquired regarding the singing with us of this species (it being in full song in March), in recording the only instances known to me of its occurrence (Bull. N. O. C., III, No. 3, p. 129, July, 1878).

Parus atricapillus. BLACK-CAPPED CHICKADEE.

My data on the vocalization of this bird are not sufficiently full to enable me to determine whether any of its notes pertain exclusively to a particular time of the year. The ordinary notes, which have conferred the name 'Chick-a-dee,' are, however, characteristic of no season, but may be heard through every month. Another vocal attribute of the species is a clear, double-syllabled whistle. This suggests the song of the Wood Pewee, but there is no true similarity between the notes of the two birds. I have no record of having heard these notes of the Chickadee in the late fall, or in the winter before the vernal influence had begun to assert itself. From such time onward, into and often through the summer, the whistling notes may be occasionally heard, but they seem never to be very constantly uttered through any season, even though the birds may be continually near us. In February, and in October, I have heard them (February 12 to October 14), and in all the intervening months. The species has also a short run of low, musically modulated notes, in fact, a short warble. This is to be heard at the same seasons as the whistling, and probably both are true song notes.

Both adult and young are in full moult in August, though with many individuals the growth of feathers does not cease until December. Through all this time the birds develop little fat, and I have found them through the winter with almost no adipose protection.

Sitta carolinensis. WHITE-BELLIED NUTHATCH.

The first positive suggestions of awakening spring are often sufficient to entice this bird into song, such as its song is — a running repetition of a single note. But the result is nevertheless agreeable, the notes possessing a mellow or resonant quality, and, at a season when few birds are to be heard, is a conspicuous and characteristic sound. The bird's eagerness sometimes leads it to place confidence in a January thaw, when its song-notes may sometimes be heard; but these premature beginnings are usually followed by many dreary days of silence. December 22, 1882, and January 11, in the mild winter of 1880, are the earliest dates I have for the first song. On the latter occasion the performer had partially emerged from the entrance of an old Woodpecker's nest, and not improbably had been influenced by the suggestions of the situation. I have several times noticed Bluebirds in song at unusual times while engaged in inspecting retrospective or prospective homes.

Though with the Nuthatches singing may not be fully instituted until the latter part of February, individuals are usually to be heard on fine days about the middle of the month, even if the preceding weather should have been severe.

This species is not constantly abundant with us, and at times seems to be altogether wanting, so that absence of song may imply silence only in the sense of there being no birds to sing. The species was abundant in the season of 1879, which was of normal character, and may thus be taken as a representative one. Full song was first heard February 16, and again March 2, after which singing was constant to the middle of the month, thence decreasing towards the end. In April and May, song-notes were heard on several separated dates, extending through the former month, and up to the 11th day of the latter. These appeared to conclude the season of song; but on several days of early July brief song-notes were heard. Similar apparently exceptional dates were recorded in another year, and a close approach to the true song-notes was once heard on July 23. It is probable that these late notes were from the parents of delayed broods. I have no record of the song-notes for a later period of the year, and in some years I have not heard them later than March. The usual call notes are a nasal '*Yank-Yank.*'

I find the Nuthatch all through the winter almost without fat. When fat is present it is of a clear, pale sulphur color, while that of the Red-bellied Nuthatch is more opaque and of a deep orange-yellow.

Sitta canadensis. RED-BELLIED NUTHATCH.

The drawling call-notes of this species are the only sounds I have heard from it. They are frequently uttered while the bird is with us.

Certhia familiaris rufa. BROWN CREEPER.

Some feeble notes, suggestive of those of *Regulus satrapa*, are this bird's usual utterance during its visit. Its song I have never heard.

Thryothorus ludovicianus. CAROLINA WREN.

This species is of too irregular occurrence to afford the requisite data for a knowledge of its habits of song during the entire year. I have, however, heard its full song in April, May (June 24 ?) and August.

Troglodytes aëdon. HOUSE WREN.

From its arrival late in April until after midsummer the full song of the House Wren is to be heard, and, though sometimes ending with July, it is often continued through the first week of August. August 15 is my latest date for the true nuptial song. Usually before this time, when singing continues so late, the song begins to change, and, becoming increasingly weaker and less defined, may be extended beyond the middle of the month. With the change of song a change of habits begins, and likewise gradually progresses. The birds forsake the vicinity of dwellings and their accessory buildings, of which for more than three months they have been familiar and self-assertive occupants. To the lay observer they have disappeared, but the experienced eye will detect them inhabiting the rocks and shrubbery of wild and unfrequented localities, often remote from human habitation. In such places the autumn song is to be heard, though to one familiar only with the characteristic song of the earlier season its authorship would hardly be suspected. It has none of the spontaneity and vigor of the spring song, but is a low, rambling warble. I have listened certainly a full minute while it continued without interruption. An approach to this song may sometimes be heard when the species is becoming silent in August, as I have already stated; while in September a decided reversion towards the spring song is sometimes noticeable.

Although the bird regularly sings in the autumn, at this season its subdued song and retiring disposition render it easily overlooked; so that absence of records of song in the autumn at a time when observation in other years has shown the bird to sing, cannot be taken as a guarantee of silence, as it could be in the case of a more conspicuous species. The precise limits of the autumn song-period I have not yet been able clearly to define, but it may be said in general terms that singing begins early in September, continuing through this month and sometimes into

October. Extreme dates are August 24 and October 7; more usual limits would fall in the first and fourth weeks of September. In several years I have noted imperfect songs in the fourth week of August, about midway between the two seasons of song. These seemingly misplaced songs I have usually considered as appertaining to the song-period from which they were separated by the least interval of time. But they may be wholly aberrant; or the two song-periods may sometimes be connected; or perhaps in some years the first song-period is prolonged and the second does not occur; for in more than one instance I have noticed that an undue extension of the first song-period seems to be at the expense of the second. Either of these suppositions could be supported by my records of certain years, but recalling the likelihood of the bird to be overlooked in the autumn, we find ourselves justified in no conclusions without more extended data.

How far birds of the year enter into the subject of change of song in the autumn with this species cannot at present be said; but a male bird shot while singing on September 1, 1880, was in fine plumage and bore every indication of being fully adult. I find this species in the autumn without much fat, and with feather-growth continuing slightly into October.

Anorthura troglodytes hiemalis. WINTER WREN.

A silent migrant with respect to song, though often amply noisy with its ordinary notes, the movement of which fitly corresponds with the excited bobbing of the little brown-plumaged body from which they proceed. Once only have I heard its song in this latitude — on November 21, 1880, a cold and wintry although still morning. The song was three times repeated, and though brief was sufficiently perfect to bring to mind the summer home of its author in mountain forests northward. In winter I have found dark yellow fat encasing its small body.

Telmatodytes palustris. LONG-BILLED MARSH WREN.

There seems to be an irregularity about the singing of this bird in the late summer and fall which requires for full explanation more complete data than my records afford. The first song-period normally ends early in August, dates of final songs in six years falling between July 31 and August 13. But sometimes a song will be heard late in the month, as in 1878, when a song on August 28 was the only one heard since the 7th, although observations had been continued in the interim.

In 1879 observations failed to detect any singing during August, but on September 7 a song was heard, which was the last. In 1880 the case was still different, isolated songs being scattered along through August till the 22d, after which none were heard until, on October 3, several birds were observed in fine plumage and full song. Were it not for the latter observation, we might be disposed to conclude from our data that with this species a second song-period, in late August or early September—some three or four weeks after the first—was indicated but not well established. But the fact of several birds being in full song on one occasion so late as October, when they were about to leave us, leads us to suspect that the true second song-period of the species may occur subsequent to its departure. Toward the close of its vocal season this species sometimes sings in a low uncertain way, after the manner of the House Wren.

Cistothorus stellaris. SHORT-BILLED MARSH WREN.

The scarcity and local distribution of this Wren has prevented the acquirement of data sufficiently numerous for defining its periods of song. Two periods, however, are indicated; one ending before the close of August, the other beginning about a month later and continuing at favorable times until the bird's departure. One of these Wrens was heard in full song almost daily between August 12 and 21, 1881, but nothing was afterward heard from the species until September 18. At this date the songs lacked the vigor and definition of those of a month earlier, but were more prolonged. This change was carried a step farther in the songs of an individual taken September 22, 1878. I have no record of songs between this date and October 23. In 1880, on the latter date (a late one for the species), one was taken while singing, but the song was so subdued and rambling as scarcely to be recognizable. Thus three at least of our Wrens show the same character of variation in song from spring to fall.

The summer song of this bird normally presents three well defined variations. Such versatility is unusual in a species, the song of which is of such a definite number of distinct notes. I have heard all three variations successively produced by the sa bird, showing them to come within the normal scope of its vo powers. What appears to be the typical song may be rep sented thus: *chit*, *chit*, *che-che-che-che-che*; and one of variations thus: *chit*, *tit*, *ter-r-r-r-r-t*, the last part with a grati sound. In the former song the notes of the last part are of abo half the time of the first; in the va iation they are mu more rapid. In the third variation they are not so hurried a less harsh.

ORNITHOPHILOLOGICALITIES.

BY PROFESSOR ELLIOTT COUES.

(*Concluded from p. 58.*)

No. 512. *Buteo*. This we gave as the Plinian name, but of doubtful etymology. Mr. Wharton, in the 'Ibis List,' makes it cognate with **βύας**, **βῦζα**, *bubo*, *bŭbĕre*, to cry like a bittern, *bucca*, the cheek, etc.

No. 528. *Urubitinga*. We said that this was a barbarous word of some South American dialect, *urubu* meaning a vulture, but did not know what the rest of the word is. The 'Athenæum' reviewer supplies the desired information, stating that *tinga* is a word of the widely diffused Tupi language, spoken throughout a great part of Brazil, and meaning 'white,' in the sense of 'bright,' and that *urubitinga* is simply 'beautiful vulture.'

No. 532. *Aquila*. This, which we discussed very unsatisfactorily, Mr. Wharton in the 'Ibis List' disposes of without query as from the root of *aquilus*, dark, **ἀχλύς**, mist, **ὠχρός**, sallow. A case like this, where we were groping, is just one in which Professor Merriam might have resolved our doubts, and done good service.

No. 533. *Albicilla*. (See *Motacilla*.) Mr. Wharton says: from **albicula*, dim. of *albus*, white; probably confused with an impossible derivation from a non-existant word, **κίλλος**, a tail. Existant or not as such a word may be, our contention is, that *Haliaëtus albicilla* = white-tailed sea-eagle, and was not intended to mean anything else.

No. 539. *Columba*. We gave this as simply Latin for a pigeon, of unknown etymology. Mr. Wharton says: "probably as if meaning 'dark,' from the root of *caligo* = darkness. But *cf.* Lith. *gulbe* = swan, O. Irish *gall*, with the meaning white. Probably *not* akin to *Colymbus*." We suspect the former of these surmises may be the right one; for if Lat. *columba* is connected with *caligo*, and means 'dark,' the word is brought into correspondence with the Greek name of a pigeon, **πέλεια** or **πελειάς**, from **πέλλος** or **πέλος**, dark-colored, 'livid,' whence *livia* as the name of the Rock Dove.

Nos. 544, 545. *Zenaida, Zenaidura.* We had not succeeded in identifying the proper name, until the New York 'Critic' reviewer pointed out that *Zénaïde* is the name of the daughter of Joseph Bonaparte, wife and cousin of Prince C. L. Bonaparte, who dedicated the genus to her under the Latinized form *Zenaida*. From this *Zenaidura* is, as we stated, obviously though somewhat curiously formed by adding *-ura*, from **οὐρά**, tail. Will the next critic of our 'Check List' give us the nationality and pedigree of the word Zénaïde, which must have been a word before it became a proper name?

No. 560. *Urophasianus.* We naïvely took this from ὀυρά and *phasianus;* but we suspect that we made a great bull in not making a bull instead of a tail out of the first part of the word. So, to take this bull by the tail, we should say that *urophasianus* is probably constructed upon the model of *urogallus*, which word was formed by Gesner from the German *Auerhahn*, where *Auer* = *urus*, the bull described by Cæsar, the *Aurochs*: the implication being the bird's comparative size. The same idea appears in 'bull-frog,' etc. If this be so, *urophasianus* is brought into correspondence with *urogallus*, *Auerhahn*, and also *capercaillie*.

No. 571. *Ortyx.* We gave **ὄρτυξ**, a quail, as related to **ὀρταλίς**, and both as akin to **ὄρνις**, a bird. Wharton, quoting Curtius, makes it from the root of *verto*, I turn, from its whirling flight, and compares Skt. *vartakas*, a quail, *vart*, to roll. Will Professor Merriam decide this point for us?

No. 589. *Hiaticula.* We gave no satisfactory account of this word, merely saying, correctly, that it is an old bird-name, in form a diminutive of *hiatus*. The 'Zoologist' reviewer helps us to the desired explanation, saying: "Charleton, at p. 109 of his 'Onomasticon Zoicon' (1668), says that the name is given to the Ring Plover *quia circa fluminum alveos et rivorum hiatus versetur*, because it haunts the mouths (*hiatus*) of rivers." If now we were asked to say, what is the one most important point made by Professor Merriam in his long excursion into bird-land, we should reply, his quotation from Gaza (1476) showing that *hiaticula* is simply a translation of Aristotle's χαραδριός—'*quasi hiaticula dixeris*'; a point, by the way, already made by Mr Wharton in the 'Ibis List,' p. 159.

No. 593. *Vanellus.* We wonder that Professor Merriam did not correct us here, where we were all wrong. The 'Zoologist' reviewer takes a fair shot, as follows: "There is a carelessness about deriving *Vanellus* from *vanus* which surprises us in the midst of so much erudition. The old spelling, *Vannellus*, and the French *vanneau*, leave no doubt as to the origin of the word being from the Latin *vannus*, a fan. Charleton (p. 108) already says the name is given *quodualis, instar vanni seu ventilabri, commotis concussisque strepitum edat*"—that is to say, you know, Professor Merriam, because with (its) wings, like unto (or after the manner of) a fan or winnowing-machine, with commotions and concussions (the bird understood) makes a noise.

No. 595. *Ostrilegus.* Wharton writes this in the usual form, *ostralegus.* Some say *ostrælegus.* We ventured to emend to *ostrilegus*, citing Vergil's *ostriferus* in our support. Here is a case in which we showed our instinctive appreciation of the 'genius of the Latin tongue'; in his exegesis upon which theme Professor Merriam might have sent us up to the head of the class again, after so sternly reprimanding us for giving out that *atrocristatus* was a fair way of saying 'crested with black' in bird-Latin.*

No. 604. *Phalaropus fulicarius.* See under *Fulica*, No. 686.

No. 606. *Scolopax.* Here is a nugget. We instanced, as the most likely etymon, σκόλοψ, a sharp thing, from the shape of the bill; also, as alternative, σκάλλω, I scratch, etc. We also adduced σκώληξ, a worm. Wharton assents to the bearing of the two former of these upon *Scolopax*, but adds: "But possibly foreign; for other forms, σκολώπαξ and ἀσκαλώπας, occur." If Professor Merriam will settle *Scolopax*, he will confer a lasting favor upon ornithologists.

No. 620. *Arquatella.* See No. 625.

No. 625. *Subarquatus.* We gave this as an adjective, meaning little or somewhat curved, and as noting the shape of the bill. Wharton says "*subarquata* = a little like a Curlew, *arquata.*" It is thus made a noun, synonymous with *arquatella*, and meaning simply 'little curlew.' If *arquata* is a noun (and Wharton so considers it, in writing *Numenius arquata*, not *N. arquatus*), this would seem a proper way of making such a word, or one comformable at least with usage, as in the case of *subbuteo*, *hypotriorchis*, etc. Compare No. 643.

No. 627. *Calidris.* We speculated on this word at some length; Wharton says simply, "Derivation unknown." Will Professor Merriam crack this nut? We fancy that, like *Scolopax*, it is full of meat, if we can only get at it. One of its forms, *Scalidris*, suggests a possible relation or cognation with *Scolopax*; another of its forms, *chalidris*, a possible connection with *charadrius.*

No. 640. *Actiturus.* We must here criticize our friend Wharton, who says "*Actiturus* = with the tail (οὐρά) of an *Actitis.*" We were certainly right in explaining it as = *Actitis* with a tail, *i. e.*, a long-tailed *Actitis.* Bonaparte modelled the word upon *Actitis*, just as he did *Zenaidura* upon *Zenaida* after establishing the genus *Zenaida* upon his wife's name, *Zénaïde.* But what he meant, was simply a long-tailed *Zenaida* — surely not what would be implied in this case by Mr. Wharton's explanation of *Actiturus.* It is a case like *motacilla*, *albicilla*, *perspicillata*, where the verbally correct etymology furnishes an actually incorrect meaning.

No. 643. *Numenius arquata.* We admit that νουμήνιος is the correct word, and that our speculation respecting *numen* is a curiosity. But does Professor Merriam quite fairly reproduce our meaning in quoting us here? By 'ornithologists of the heroic age' we mean those of 1555 *et seq.* And does our genial critic agree with us that *numenius* is synonymous with *arquata* or *arcuata?* We really believed it to be so; but Mr. Wharton, says: "it more likely refers to *arquatus morbus* = the jaundice ('when the skin turns to the yellow colour of the rainbow'), in allusion to the legend about *Charadrius*, *Galbula*, *Icterus*, etc."

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* An esteemed English correspondent informs us that Prof. J. H. Blasius (if we remember rightly, the letter not being at hand) anticipated us in this emendation.

No. 659. *Garzetta.* To our correct statement that this is the Italian name of the corresponding European species, may be added the information given by Wharton, that it is also spelled *Sgarzetta*, as dimin. of *garza* or *sgarza*, a heron.

Nos. 660, 661. *Hydranassa*, *Dichromanassa.* There is a very queer point involved here. We can speak positively, for the latter of these words was a coinage of our own. See 'Ibis,' 1883, p. 224, where the full explanation is given. In our 'Check List,' the *-nassa* is said to be νᾶσσα or νῆσσα, a water-fowl; so it is, in the case of *Dichromanassa*, that being actually what we had in mind in coining the word. But we meant it to be upon the model of *Hydranassa*, which is compounded of ἄνασσα, a queen, Baird's coinage of *Hydranassa* being suggested by Audubon's epithet 'lady of the waters.'

No. 666. *Botaurus.* We queried the reference of this word to bos-taurus. Wharton (l. c.) considers it akin to *bittern*, etc., and "certainly not derived from *bos* + *taurus*, though perhaps confused therewith in popular etymology."

No. 678. *Porzana maruetta.* Italian *porzana*, as we gave; said by Wharton to be also written *Sforzana*, and *Forzane* (latter probably a plural form), and of etym. ignot. Will Professor Merriam enlighten us? *Maruetta* we gave as also Italian, and as said to be equivalent to anything by the sea. Wharton says it is probably not Italian, as it does not occur in Count Salvadori, and that it is Latinized from French *la Marouette.* Will Professor Merriam enlighten us here?

No. 686. *Fulica.* We gave this as good Lat. *fulica*, a coot, same as *fulix*, gen. *fulicis* (said to occur in Cicero), and as related to *fuligo*, soot, from the bird's dark color. Wharton says "akin to φαλ-ακρός = bald-headed, and Eng. bald. On this understanding *fulica* would not have anything to do with *fuligo*, but would refer to the frontal shield of Coots. The common bird-name *Phalaropus fulicarius* is in evidence that Wharton is right, the Greek name of the Coot being ραλαρίς, from ραλαρος. Compare also *Phalacrocorax*, meaning literally 'bald-headed raven.' Will Professor Merriam give an opinion here?

No. 692. *Anser.* Our supposition that *anser* is related more or less radically to *anas* and so to νάσσα, a duck, probably escaped Professor Merriam's attention. Wharton says (l. c.): "cognate with χήν, Skt. *hansas*, Grm. *gans* (our 'gander'), Norse *gaas*, A. S. *gōs* = goose, *gandra* = gander, *ganot* = gannet, Eng. *goose;* originally *hanser.* Probably from the root of χαίνω, χάσκω = I gape."

No. 699. *Bernicla.* Will not Professor Merriam kindly give us his views on this word? If he will turn to the place, he will see there is possibly an opportunity for him to dispel much gloom.

No. 714. *Querquedula.* Wharton says perhaps from **κέρκουρος**. a light vessel used by the Cyprians, or from **καρκαίρω** = I ring (Vaniçek); the latter as we supposed and said. Professor Skeat says the name is from an onomatopœic base, *querq* or *kark*, significative of any loud noise.

No. 719. *Aix* or *Æx*. Though we wrote *Aïx*, as the usual form. we distinctly stated our preference for *Æx*, simply not changing the form while in any uncertainty. Wharton (*l. c.*) says *Æx* without hesitation.

No. 728. *Harelda.* We said this was a nonsense-word, invented by Leach. Why does not our critic inform our readers that we were mistaken? For, as the 'Zoologist' reviewer points out, *Harelda* is the Icelandic name of the duck. "*Anas caudacuta Islandica* Harelda *ipsis dicta*," says Willughby (Ornithologia, 1676, p. 290).

No. 739. *Perspicillata.* Of our explanation of this word the 'Zoologist' reviewer, not Professor Merriam, says: "How far astray an etymologist may be led by guessing is comically illustrated by Dr. Coues' derivation of *perspicillata*. The true meaning of the word must be 'covered with looking-glasses,' from *speculum* a mirror, in reference to the white patches on the head." But we still think that we 'guessed' aright, as a matter of fact, though we may have been etymologically astray, in supposing the sense of the word to be 'spectacular' 'conspicuous,' or, as one might say, 'a sight to behold.' Witness *Phalacrocorax perspicillatus*, applied to a cormorant of conspicuous characters, but not in the least spotted as if 'covered with looking glasses.' Witness also *Pelecanus conspicillatus*, where the same root-word appears in the obvious sense of 'conspicuous.'

No. 746. *Sula.* We gave French *Le Sule;* Wharton, citing Brünnich, says Norse *sule*, said to mean a dolt, an awkward fellow. The English name 'booby' for one of the Gannets may tend to confirm this signification, or implication.

No. 750. *Phalacrocorax.* See under *Fulica*, No. 686.

No. 782. *Rissa.* As we said, this is Icelandic *Ritsa*, name of the bird. Wharton adds, "derivation unknown." Will Professor Merriam give the derivation?

No. 792. *Sterna.* To the several related words we cited, and of which *sterna* is a late Latinization, Wharton adds Frisian *stirn*, Grm. *Tänner*, Swedish *tärna*, Norwegian *terne*, English *tarnay;* and adds, "derivation uuknown." If Professor Merriam's excursions in the etymological field reach so far as this from Athens and Rome, will he not give us the root of this group of words?

No. 808. *Anoüs.* A question of orthoëpy here. We marked the word as a trisyllable, and Wharton follows suit. Are we both right or both wrong, Professor? We fancy that Plato said *nowce*, or something like that,—in one syllable at any rate,—when he talked to his pupils of **σῶμα**, **ψυχή** and **νοῦς**.

NOTES ON THE GENUS *ACANTHIS.*

BY LEONHARD STEJNEGER.

HAVING just finished an examination of a collection of Redpolls, embracing several hundred specimens, from America, Europe, and Asia, I propose to give some brief notes on the results arrived at, as pressing work in other directions at present prevents my elaborating a more extensive memoir.

Before proceeding to the discussion of the several species and subspecies, remarks upon the generic name of the group may not be out of place.

Professor Baird, in 1858, adopted the name *Ægiothus*, given by Cabanis in 1851, and in this almost all American writers have followed him. "*Acanthis* Bp. 1850," is given as a synonym, and as "not of Bechstein, 1802." If we look, however, on p. 125 of the 'Ornithologisches Taschenbuch von und für Deutschland' (Leipzic, 1803), we shall be convinced that Bechstein established the term *Acanthis* for the three species *carduelis* L., *spinus* L., and *linaria* L. (and *flammea*, which is probably only the summer plumage of the last named). But of these three birds, the two first named had already been removed by Brisson in 1760, and by Schäffer in 1789, to the genus *Carduelis* (of late accepted in exactly the same sense by Professor Newton). This leaves *linaria* as the only occupant of the restricted genus *Acanthis*, of which it is consequently the type. The case is too clear to leave any doubt whatever. *Linaria* Vieill., 1816, is often applied to this group, but it is only a synonym, and moreover had been previously occupied; for, besides being used in botany long before, it was the term applied in 1803 by Bechstein (l. c.) to a group of Finches embracing *cannabina* L., *citrinella* L., and *flavirostris* L. (and not *linaria!*), one of them consequently being the type. The foregoing may be summarized thus: —

Genus **Acanthis*** BECHSTEIN.

<1803.— *Acanthis* BECHSTEIN, Orn. Tasch. Deutschl. p. 125 (type, *A. linaria* L.).

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* **Ακανθις**. name of a bird eating thistles (**ακανθοι**). Aristoteles, VIII, 5.4; IX, 2.10; IX, 16.5.

= 1816.—*Linaria* VIEILLOT, Anal. p. 30 (nec BECHST. 1803, nec BOTAN.).

= 1851.—*Aegiothus* CABANIS, Mus. Hein. I, p. 161.

= 1860.—*Acanthys* DEMURS, Tr. d'Ool. pp. 334, 546.

In the first place I have to state, that an inspection of my ample material plainly shows that Mr. Ridgway was completely right, when he separated the white Greenland Redpoll ('*canescens*' = *hornemannii*) specifically from *A. linaria*, and that he was also right in placing *exilipes* as conspecific with the former and not with the latter. It is hardly necessary to remark, that no intergradation can be detected between the two typical forms, and not even—and I should say much less—between *hornemannii* and the Greenland form of *linaria*. It is between the latter and the race *exilipes* of the former, that intergradation has been *supposed* to occur. But this intergradation is either only apparent, because it sometimes is difficult to distinguish *young birds* of the two species, or it originates in hybridization. Of all the adult males which I have had the opportunity to examine, only one presented characters somewhat intermediate, thus creating the suspicion of its being a hybrid; but it was essentially a small *linaria*, to which species I referred it without much hesitation. That the two species really interbreed has, however, been observed in Alaska by Mr. E. W. Nelson, if we are correctly informed.

I need not point out the differences between these two species, as they are completely familiar to all North American ornithologists, but I want to call attention to the fact, that *exilipes* gradually becomes smaller going from the East to Alaska and Northeastern Asia. The decrease in size is, however, so gradual, and the difference so small, that the eastern and western birds cannot be separated, especially since there cannot be detected the slightest difference as to color. Von Homeyer indicates that the Asiatic specimens probably have the red more intense than those from America, but I can match a rather vividly colored specimen collected by me on Bering Island with specimens from the interior and the eastern part of North America.

Nor will it be necessary to treat at length of the difference between *exilipes* and its Greenland representative, *hornemannii* (= *canescens* Bp. *nec* Gould). The extremes are easily distinguished by the thicker and stouter bill of the latter, and its decidedly superior size. But intermediate forms are met with, and in color there is hardly any difference whatever. It has been generally asserted that *hornemannii* has a proportionally longer tail, a statement positively contradicted, however, by the numerous actual measurements taken by me.*

The collection brought back by me from the Commander Islands proves the occurrence of the true *exilipes* in Eastern Asia, and to this form is referable all instances of *canescens* said to have been obtained there (v. Schrenck, Swinhoe, Taczanowski, etc.), and there is a bare possibility that it is the same form which Severzow calls *Linaria sibirica* (J. f. Orn., 1879, p. 185—nec *Linaria sibirica* Boie). Mr. Dresser, in his 'Birds of Europe,' refers to *exilipes* several light colored specimens from Northern Europe, especially two examples from Tromsö (70° N. L., Norway). I have in my private collection (No. 209) a summer bird from the same locality shot by my friend Sparre Schneider on the 13th of June, 1877. The bill is dark, and of the same size and shape as in small specimens of *linaria*. The color is very pale, and the streaks on the underparts nearly obsolete, thus reminding one very much of *exilipes*, but the rump is decidedly streaked and the proportions correspond with those of *linaria*. I feel pretty sure that the bird in question does not belong to *exilipes*, but to a pale northern race of *linaria*, to which is applicable the name *Acanthis linaria pallescens* (Homeyer). From this I am inclined to believe that *exilipes* does not occur in Europe.

Now a few remarks upon the white colored short-billed forms. In 1834, in Volume III of his 'Birds of Europe,' Gould figured a Redpoll, which he called *Linaria canescens*, a name later applied by Bonaparte and many other ornithologists to the Greenland light species. It has, however, by later authors been identified as a representative of the true *linaria*, of which it therefore has been given as a synonym, as by Dresser, Newton, Seebohm, and the committee of the B. O. U. in its 'List of British Birds.' Unfortunately I have not access to Gould's work, but as the Greenland species is easily recognizable, I do not hesitate in accepting the identification of the above authorities, as far as the exclusion of the Greenland bird is concerned, at least. The next name for the latter is given by Holböll in 1843, and is ***A. hornemannii***.

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* v. Homeyer (J. f. Orn. 1879, p. 183) says that the tail of *holboellii* is '*longer*' than that of *hornemannii*, but this is probably only a slip of the pen, and that he meant 'shorter' instead.

The first author to distinguish the different forms of ***A. linaria*** was C. L. Brehm. His descriptions are, however, very unsatisfactory, and have caused considerable confusion. It has been generally agreed upon to call the long- and slender-billed form of *linaria* by Brehm's name *holboellii*, as that is the appellation applied by him to the form with the longest bill. It was afterwards named by Brehm himself *longirostris;* Sundevall used the names *alnorum* and *magnirostris*, and its summer plumage has recently been redescribed by E. v. Homeyer as *brunnescens*. It is a rather poorly differentiated form, as the intergradation into ***linaria vera*** is complete, and the intermediate links rather numerous. But, nevertheless, the two races exist, and we shall have to recognize them. The chief distinction is the lengthened and pointed bill, and the somewhat larger size, although the tail is about the same length. Like the true *linaria*, it occurs both in Europe and North America, and I have also met with it in Eastern Asia. It has been suggested that the American forms might be separable as races from the European birds on account of heavier streaking on the lower parts of the body. But I have not been able to verify it as a general rule, while it is certain that I have before me specimens from Scandinavia and America which are perfect counterparts of each other. In size I could detect no difference. For comparison I have had a large series of American birds, including the types of Coues's *fuscescens* from Labrador,* and a similar series of European and Asiatic specimens; among the European, examples from the late Professor Sundevall with the names *L. magnirostris* and *L. ordinaria*, ***parvirostris***, or ***betularum***, in his own handwriting on the labels.

I may here add a few notes upon a small series of Redpolls from the Island of Kodiak, Alaska. They are perhaps a trifle smaller than *holboellii*, but the length of the bill is by no means inferior. As they are in the worn summer plumage little can be said with certainty about the actual length of wing and tail-feathers. Of the five specimens at hand, one adult male is especially remarkable for the deep color of the dark parts and the brilliancy of the red color* on cap and breast, and the nearly complete absence of red on the rump. Two other red-breasted males from the same locality show no tangible differences from *holboellii*, however, although it ought not to be forgotten that they were killed on the 20th and 27th of May, while the former was obtained on the 27th of July, the difference in date thus accounting for the paleness of the two. As the specimen in question is in rather poor condition, and I have not seen its characters confirmed in other examples, I should not deem it wise to separate it at present; but I wish to draw the attention of ornithologists who may have more ample material from that particular region, to the probability that the Kodiak bird may constitute a peculiar race. I should add, however, that Ridgway has already made a similar statement (Hist. N. A. B., I, p. 492).†

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* Not from Alaska, as O. Finsch states (Zweite Deutsche Nordpolarfahrt, II, p. 190).

Mr. William Brewster has, in a very instructive and interesting memoir on 'Holböll's Red-Poll' (Bull. Nutt. Orn. Club, 1883, pp. 95-99), expressed the suspicion that *linaria* and what he calls *holboellii* "are forms closely allied, but nevertheless sufficiently segregated to rank as distinct species." Compared with my statements above, we seem to be of very opposite views in this case; but I think that I can offer a satisfactory explanation.

By comparing summer specimens of the so-called *holboellii* from Greenland, and more southern winter birds, with the ordinary form occurring in Europe and America under that name, I was at once struck by the great differences. The Greenland bird is evidently considerably larger, its bill much stouter and somewhat differently shaped—not so pointed—besides being on the average a trifle *shorter*. As to color I thought they were rather darker and heavier streaked below. I was very soon convinced that these birds were different from the common *holboellii*, being in fact the form originally described by Coues as *rostratus*, but afterward given up by him.‡ It was also clear that the specimens examined and described by Brewster were the winter plumage of the same form. The Redpolls are rather difficult to determine from descriptions, but if they all were so clear and thorough as those of Mr. Brewster there would have been less confusion in this group of birds. His statement that the specimens from New England "will be found to differ from the ordinary type [*linaria*] in being very much larger, with stouter, less acute bills, generally darker coloring, and especially darker, coarser streaking beneath," will apply to ***rostrata***, as distinguished not only from *linaria*, but also from true ***holboellii***.

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* In the intensity and brilliancy of these colors it shows a remarkable analogy to the *Pinicola* inhabiting the same island. This is described by E. v. Homeyer (J. f. Orn., 1880, p. 156) as *P. flammula*, but being connected with *enucleator* by intermediate links it will only stand as *Pinicola enucleator flammula* (Homey.). Previously Pallas noted the difference of the birds from Kodiak.

† Pallas (Zoogr. Ross. As., II, p. 25) also mentions the specimens from Kodiak as remarkable for their long bills and their coloring.

‡ It has been quite erroneously referred to *hornemannii* by Gray (Handl., II, p. 110), Giebel (Thesaur. Orn., II, p. 196) and, strangely to say, by Dr. Coues himself (Bull. U. S. Geol. Surv., V, p. 633).

Nevertheless, I do not agree with him in regarding ***Acanthis rostrata*** as a 'distinct species.' The conclusion of Mr. Brewster is easily explained, he probably having only the short-billed *linaria* for comparison; but as the measurements, given below, show, there is a regular intergradation, and the Greenland bird cannot be justly designated except as conspecific with the other forms. It will therefore, after the common usage of American writers, stand as ***A. linaria rostrata***. This name does not quite express the true relationship; for if the trinominal nomenclature is adopted in order to show that the two forms whose names are combined intergrade, we should expect a combination like ***A. holboellii rostrata*** on the one hand, and ***A. linaria holboellii*** on the other. This is the course taken by Mr. Seebohm, and is a point which merits earnest consideration.

Here comes up a question about the first name of this form, as I am inclined to believe that it may be ***Acanthis linaria lanceolata*** (Selys) Dubois. In the Parzudaki Catalogue of European Birds (Paris, 1856) C. L. Bonaparte enumerated among the Redpolls a ***Linaria groenlandica*** Bp. without giving any diagnosis or description whatsoever. As it is a '***nomen nudum***' nothing can save it, although it evidently is no other bird than the present, ***hornemannii*** being enumerated as ***canescens***, and there being only these species found in Greenland. Nor is Gerbe's description* in that respect of any use, as it is published six years later than Coues's ***rostratus***. In the 'Rev. et Mag. Zool.' (1857, p. 123), De Selys, in reviewing Bonaparte's 'Catalogue Parzudaki,' mentions the ***groenlandica*** as identical with his *lanceolata*, but gives no further clue to the origin of this name, nor does his countryman, Dubois, who, in his 'Consp. Av. Europ.', p. 18 (Brux., 1871), gives the combination *Acanthis linaria* γ *lanceolata* Selys. Having no access to De Selys's 'Faune Belge,' nor to his other writings (it does not occur in the paper entitled 'Sur les Oiseaux américains dans la faune européenne' in 'Mém. Soc. Liège,' 1847, IV, p. 35), I cannot come to any conclusion upon this point. But it is very desirable that anyone having the opportunity should look the matter up before the new list of North American birds, planned by the A. O. U., is published.*

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* "La *Groenlandica* serait particulièrement caractérisée par des taches lancéolées noires et très-nombreuses sur la poitrine et sur les flancs" (Ornith. Europ., I, p. 293, Paris, 1867).

There remains only to be said a few words upon the two European races of *linaria* not recognized from America. The one is the *pallescens*, spoken of above, while the other is the form found breeding in the British Islands, and, as I believe, on all the high mountains of Southern Europe. Mr. Seebohm (Hist. Brit. Bird's Eggs, II, p. 117, London, 1883) states that "the only known instance of the Lesser Redpole breeding out of the British Islands is that recorded by Professor Giglioli ('Ibis,' 1881, p. 204), who obtained a nest from the Veglio Alps in Italy, about 7000 feet above the sea-level." This is not correct, for its breeding in the Styrian Alps, at a height of 5,000 to 6,000 feet above sea-level, has been several times announced by von Tschusi-Schmidhofen (*cf.* J. f. Orn., 1872, p. 132, as *Acanthis linaria*; *ibid.*, 1875, p. 409, as *Fringilla l.*; and *ibid.*, 1876, p. 331, as *Fringilla rufescens*).

This form is said to be distinguished by its rump having no white coloring, and by being smaller than *linaria*. A specimen in the National Museum from England, shot on the 18th of May, 1837, is of the size of a small *linaria*, but has a decidedly weaker bill. As it is in bad condition, nothing can be concluded from the color of the plumage.

There can be no doubt as to the identification of Buffon's 'Pl. Enlum.,' pl. 485, fig. 2, upon which Müller's name *Fringilla cabaret* and Boddaert's *Fringilla minima* are based. The uropygium is plainly visible and is painted uniform brown, the main character of the English bird.

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* Since writing the above Mr. J. A. Allen has kindly informed me that it does not occur in this work. The probability therefore is that it is only a museum name.

The following brief synopsis and synonymy may be regarded as a condensed summary of the above notes. The synonymy, it will be seen, does not pretend to be in any way complete.

SYNOPSIS.

1. **Acanthis hornemannii** (HOLB.) STGR.

1843.—*Linota hornemannii* HOLBÖLL, Naturh. Tidskr. (IV, p. 398).

1850.—*Acanthis canescens* BP. & SCHLEG. Mon. Lox. p. 47, pl. 5 (*nec* GOULD, 1834).

(*Ægiothus canescens* var. *canescens* B. BR. & RIDGW. Hist. N. Am. B. I, p. 493.—No. 178, RIDGW. Nomenclature, p. 22.—*Ægiothus hornemanni*, No. 209, COUES, Check L., 2d ed., p. 49.)

HAB.—Greenland and Eastern Arctic America.

1 *a*. **Acanthis hornemannii exilipes** (COUES) STGR.

1839.—*Fringilla borealis* AUD. Orn. Biogr. V, p. 87, pl. 400 (*nec* VIEILL. 1818).

1860.—*Fringilla linaria canescens* v. SCHRENCK, Reise Amurl. I, p. 296.

1861.—*Ægiothus canescens* ROSS, Edinb. Phil. Journ. 1861, p. 163 (*nec* GOULD, 1837).

1861.—*Ægiothus exilipes* COUES, Pr. Phil. Ac. 1861, p. 385.

1872.—*Ægiothus linaria* var. *exilipes* COUES, Key, p. 131.

1874.—*Ægiothus canescens exilipes* RIDGW. Ann. Lyc. Nat. Hist. N. Y. X, p. 372.

(*Ægiothus canescens* var. *exilipes*, B. BR. & RIDGW. *l. c.*—No. 178*a*. RIDGW. *l. c.*—*Ægiothus exilipes*, No. 210, COUES, *l. c.*)

HAB.—Arctic America and Northeastern Asia.

2. **Acanthis linaria** (LIN.) BP. & SCHL.

1758.—*Fringilla linaria* LIN. S. N. 10th ed. I, p. 182.

1818.—*Linaria borealis* VIEILL. Mem. Ac. Tor. XXIII (p. 199).

1831.—*Linaria agrorum* BREHM, Handb. Vög. Deutschl. p. 281.

1831.—*Linaria betularum* BREHM, *ibid.* p. 282.

1834.—*Linaria canescens* GOULD, B. of Eur. III (pl. 193).

1840.—*Fringilla linaria betularum*, SUNDEV. Sv. Vet. Ac. Handl. 1840 (p. 59).

1861.—*Ægiothus fuscescens* COUES, Pr. Phil. Ac. 1861, p. 222.

1866.—*Fringilla linaria brevirostris* HOLMGR. Skand. Fogl. I, p. 328.

1873.—*Ægiothus rufescens* ALST. & BROWN, Ibis, 1873, p. 64 (*nec* VIEILL.).

(*Ægiothus linarius* var. *linarius* B. BR. & RIDGW. *l. c.*—*Ægiothus linaria*, No. 179, RIDGW. *l. c.*—No. 207, COUES, *l. c.*)

HAB.—Northern portion of Palæarctic and Nearctic Regions.

2*a*. **Acanthis linaria pallescens** (HOMEY.) STGR.

1817.—***Fringilla linaria*** var. β NILS. Orn. Svec. I, p. 150.

1861.—***Fringilla canescens*** SOMMERF. Öfv. Sv. Vet. Akad. Förh. 1861 (p. 81).

1876.—***Linota canescens*** SEEB. & BROWN, Ibis, 1876, p. 116 (***nec*** GOULD).

1877.—***Linota exilipes*** DRESSER, B. Eur. pts. LVII and LVIII (***part***).

? 1879.—***Linaria sibirica*** HOMEY. J. f. Orn. 1879, p. 185 (***nec*** BOIE, 1822).

1880.—***Linaria pallescens*** HOMEY. ***ibid.*** 1880. p. 156.

HAB.— Arctic Europe (and West Siberia?).

2*b*. **Acanthis linaria holboellii** (BREHM) DUBOIS.

1831.—***Linaria holboellii*** BREHM, Handb. Vög. Deutschl. p. 280.

1831.—***Linaria alnorum*** BREHM, ***ibid***, p. 281.

1840.—***Fringilla linaria alnorum*** SUNDEV. Sv. Vet. Acad. Handl. 1840 (p. 59).

1855.—***Linaria longirostris*** BREHM, Naumannia. 1855, p. 277.

1857.—***Acanthis holboolli*** SELYS, Rev. Mag. Zool. 1857, p. 126.

1866.—***Fringilla linaria magnirostris*** HOLMGR. Skand. Fogl. I p. 328.

1871.—***Acanthis linaria*** β ***holböllii*** DUBOIS, Consp. Av. Europ. p. 18.

1879.—***Linaria brunnescens*** E. v. HOMEY. J. f. Orn. 1879, p. 184.

1880.—***Linaria alnorum magnirostris*** MEVES. J. f. Orn. 1880, p. 155 (***fide*** HOMEY.).

(***Ægiothus linarius*** var. ***holbölli*** B. BR. & RIDGW. *l.c.* (only in part).—No. 179*a*, RIDGW. *l.c.*—No. 208, COUES *l.c.*)

Hab.—Northern portion of Palæarctic and Nearctic Regions.

2*c*. **Acanthis linaria rostrata** (COUES) STGR.

—***Linaria lanceolata*** SELYS (***ubi?***).

1856.—***Acanthis groenlandica*** BONAP. Catal. Parzud. p. 4 (***nomen nudum.***)

1861.—***Ægiothus rostratus*** COUES, Proc. Ac. Phil. 1861. p. 378.

1871.—***Acanthis linaria*** γ ***lanceolata*** DUBOIS, Consp. Av. Europ. p. 18.

1874.—***Ægiothus linarius holbölli*** B. BR. & RIDGW. Hist. N. Amer. B. I p. 493 (part).

1883.—***Ægiothus linaria holboelli*** BREWSTER. Bull. Nutt. Orn. Cl. 1883, p. 95.

(***Ægiothus linarius*** var. ***holboelli*** B. BR. & RIDGW. *l.c.* (in part).—No. 179*a*, RIDGW. *l.c.*—No. 208, COUES *l.c.*)

HAB.— Greenland and North Eastern America.

2*d*. **Acanthis linaria cabaret** (MÜLL.) STGR.

1776.—***Fringilla cabaret*** MÜLL. Natursyst. Suppl. (p. 165).

1783.—***Fringilla minima*** BODDAERT. Tabl. Pl. Enlum. p. 28 (***Ed.*** Tegetm.).

1790.—***Fringilla linaria*** β LATH. Ind. Orn. I, p. 459.
1818.—***Linaria rufescens*** VIEILL. Mem. Acad. Torin. XXIII. (p. 202.)
1833.—***Linaria minor*** SELBY, Brit. Orn. I (p. 320).
(***Linota rufescens*** List B.O.U. p. 54.—No. 203, DRESSER, List. Eur. B. p. 16.)

HAB.—British Islands, and high mountains of Southern Europe.

Finally, it may not be out of place to give a few measurements, but in order to save time and space I here only offer the averages, reserving the details for a more elaborate memoir on which I am

Table of Comparative Measurements.

Name of species	Localities.	Number of specimens measured.	Wing.		Tail-feathers.		Bill from nostrils.		Depth of bill.	
A. Winter specimens (October—April).										
(*a*) Males.										
			mm.	inch.	mm.	inch.	mm.	inch.	mm.	inch.
1. ***hornemannii***	East N. Amer.	Av. 6♂♂*	85.3	3.40	66.3	2.61	8.0	0.32		
1a. ***h. exilipes***	Asia, W. & E. Amer.	" 17♂♂	73.8	2.91	58.7	2.31	6.6	0.26		
2. ***linaria.***	E. Asia, Amer. Scand.	" 16♂♂	73.8	2.91	58.0	2.28	7.5	0.29		
2b. ***l. holboellii***	E. Asia, E. Am. Scan.	" 10♂♂	75.4	2.97	58.6	2.31	8.6	0.34	6.3	0.25
2c. ***l. rostrata***	E. Amer. & Greenl.	" 8♂♂*	81.1	3.19	62.4	2.46	8.2	0.32	7.5	0.29
(*b*) Females.										
1. ***hornemannii***	E. North Amer.	Av. 6♀♀*	84.1	3.31	64.3	2.53	7.9	0.31		
1a. ***h. exilipes***	Asia, W. & E. Amer.	" 13♀♀	71.1	2.80	57.7	2.27	6.7	0.26		
2. ***linaria***	E. Asia, Amer., Scan.	" 19♀♀	71.1	2.80	56.5	2.22	7.3	0.29		
2b. ***l. holboellii***	E. Asia, Scandin.	" 3♀♀	72.0	2.83	56.7	2.23	9.0	0.35	6.2	0.24
2c. ***l. rostrata***	E. North Amer.	" 6♀♀*	76.8	3.02	60.5	2.38	8.2	0.39	7.5	0.29
B. Summer Specimens (May — September).										
(*a*) Males.										
1a. ***h. exilipes***	Alaska	Av. 6♂♂	72.3	2.85	58.3	2.30	6.9	0.27		
2. ***linaria***	North America.	" 7♂♂	71.9	2.83	56.3	2.22	7.5	0.29		
2b. ***l. holboellii***	E. Asia, Kodiak, Scan.	" 7♂♂	74.0	2.91	56.9	2.24	8.5	0.33	6.1	0.24
2c. ***l. rostrata***	Greenland.	" 1♂	77.0	3.03	56.0	2.20	8.5	0.33	7.5	0.29
(*b*) Females.										
1a. ***h. exilipes***	Alaska.	Av. 2♀♀	71.5	2.81	56.5	2.22	7.0	0.28		
2. ***linaria***	North America.	" 5♀♀	69.2	2.72	55.6	2.19	7.1†	0.28		
2b. ***l. holboellii***	E. Asia, Kodiak.	" 3♀♀	71.3	2.80	57.0	2.24	8.2	0.32	6.2	0.24

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* Sex and date supp.

† The type-specimen of Coues's *fuscescens* has a very worn and therefore very short bill, thus depressing the average unduly. The average of the four other females is 7.4 mm. = .28 inch.

at present engaged. The measurements are given separately for the different sexes, and for the summer and winter plumages. In the former the feathers are usually much abraded, the measurements thus being smaller and also less reliable. It is consequently a matter of fact that the measurements of summer specimens of the larger form inosculate with those of the smaller one in winter plumage; but that is not true intergradation. Such *specimens only* are therefore measured in which locality, date, and sex were plainly marked on the label by the collector himself, unless otherwise stated. In no case have I given measurements of examples the sex or date of which I have guessed from the size, the color, or the appearance of the plumage, except in two particular instances as specified in the table.

P. S.—Since the above was written Mr. W. Brewster has had the great kindness to send to me for inspection the specimens upon which his remarks on *L. holboelli* in his above quoted paper, were based. They confirm what I have already said, and there can, in my opinion, be no doubt that these Redpolls are birds bred in Greenland, or perhaps on the opposite shore of North America, wandering along the coast line in winter as far south as New England and New York. They are, in all respects, true and typical *A. l. rostrata*.

As Mr. Brewster's and my measurements are scarcely comparable on account of our different manner of making them, I have remeasured them, so that they may be compared with the dimensions recorded in the 'Table of Comparative Measurements' of this paper. I have also added the dimensions of two fine males in winter plumage from Dr. A. K. Fisher's collection, being in every respect true *rostrata*. The character originally pointed out by Mr. Brewster, that in *rostrata* the upper mandible is decidedly decurved and its outline noticeably convex, holds good in all the specimens. The outline is straight both in *linaria typica* and in *holboellii*.

Table of measurements of **A. l. rostrata.**

Collection.	Cat. No.	Locality.	When collected.	Sex and age.	Wing.		Tail-feathers.		Bill from nostrils.		Depth of bill.	
A. Specimens from Massachusetts.												
(*a*) Males with red on the breast.												
					mm.	inch	mm.	inch	mm.	inch	mm.	inch.
W. Brewster	7892	Near Boston.	Feb. 1883.	♂ ad.	78	3.07	62	2.44	8	0.32	7.7	0.30
"	. .	Nantasket.	Feb. 22, '83	♂ ad.	77	3.03	60	2.36	8	0.32	7.0	0.28
"	. .	"	"	♂ ad.	81	3.19	61	2.40	8	0.32	7.0	0.28
"	. .	"	"	♂ ad.	80	3.15	62	2.44	7.7	0.30	7.0	0.28
					79	3.11	61.2	2.41	7.9	0.31	7.2	0.28
(*b*) Males without red on the breast.												
W. Brewster	7898	Near Boston.	Feb. 1883.	♂	75	2.95	59	2.32	7.7	0.30	7.0	0.28
"	7913	" "	"	♂	82	3.23	64	2.52	8.0	0.32	7.0	0.28
"	7894	" "	"	♂	77	3.03	58	2.28	8.0	0.32	7.0	0.28
"	7897	" "	"	♂	81	3.19	64	2.52	8.0	0.32	7.5	0.29
					79	3.11	61.2	2.41	7.9	0.31	7.1	0.28
(*c*) Females.												
W. Brewster	2922	Cambridge, Mass.	Feb. 19, '73	♀	75	2.95	61	2.40	7.7	0.30	6.8	0.27
"	2928	W. Newton, Mass.	Jan. 23, '75	♀	74	2.91	61	2.40	7.5	0.29	7.0	0.28
"	7896	Near Boston.	Feb. 1883.	♀	77	3.03	61	2.40	8.0	0.32	6.5	0.25
					75.2	2.96	61	2.40	7.7	0.30	6.8	0.27
B. Specimens from New York.												
Males with red on the breast.												
Dr. A. K. Fisher	1444	Sing Sing, N.Y.	Winter.	♂ ad.	83	3.27	64	2.52	8.2	0.32	7.2	0.28
" "	1445	" "	"	♂ ad.	79	3.11	65	2.56	8.0	0.32	7.0	0.28

SMITHSONIAN INSTITUTION,
Washington, D. C., Jan. 22, 1884.

THE WINTER PASSERES AND PICARIÆ OF OTTAWA.

BY W. L. SCOTT.

It has been the delight of poets, from time immemorial, to chant of spring and summer as the exclusive seasons of birds and sunshine; but even in our 'bleak northern clime,' our cold winter days are by no means destitute of either the one or the other. Of the Canadian winter sunshine, any one can speak who has spent a winter in Canada, and experienced the clear, dry, sunny weather, which makes our season of snow so thoroughly enjoyable; and of the Canadian winter birds, or, at least, of some of those which visit Ottawa, I propose to say a few words.

During the winter, it is true, we look in vain for the myriads of feathered songsters which make the spring and summer woods resound with their joyous carols; but we are visited by numbers of little travellers from the far North who, at least to the naturalist, are no less curious and interesting.

First among the latter, both on account of its place in the Check-list and of its extreme abundance, stands the Black-capped Chickadee (*Parus atricapillus*). It remains with us throughout the whole year—that is, at least, some individuals do, for they are so abundant during the winter, and so few, in comparison, are to be seen in the summer, that numbers, in the former season, must come from the north.

Its cousin, the Hudson's Bay Tit (*Parus hudsonicus*) can, I think, be put down as a rare winter visitant. Very few have been seen here at all, and, as far as I know, none in the summer. The earliest autumn record which I have is October 31 of this year, on which date I observed one hopping about among the branches of a poplar tree, quite near the city.

The White-bellied and Red-bellied Nuthatches (*Sitta carolinensis* and *S. canadensis*) are quite common with us during the whole year; but while the proportion one sees in the summer is about six of the Red-bellied species to one of the White-bellied, in the winter it is exactly the reverse. The White-bellied are commoner during the months of October and November than at any other season. A Red-bellied Nuthatch was taken here on December 8, the contents of whose gizzard were examined by James Fletcher, Esq., under a powerful microscope, and he says of it: "I found two skins possibly of the seeds of a conifer; the whole of the remainder of the contents was made up of coarse sand."

On December 8 I shot a Brown Creeper (*Certhia familiaris rufa*), which is the first instance of the occurrence here of this species, during the winter months that I can learn of. Mr. Fletcher also kindly examined the contents of the stomach of this bird and reports: "There were parts of 35 wings of Pysllidæ; judging from the shape, they were probably of three species. These are small Homopterous insects which hibernate under the moss on trees, or in the crevices of bark. In almost equal numbers were portions of the wings of a small *Erythroneura*, probably found in similar places as the above. I could not detect a single wing belonging to any species of Coleoptera, which somewhat surprised me. I found a few scales of some species of Lepidoptera, but no remnants of the wing. There was one pair of rather large wings of some species of Diptera, and one very peculiar under-wing which I could not determine. The rest of the contents of the gizzard consisted of the legs and chitinous portions of the bodies of the above-named insects. There was not a single grain of sand."

One of our winter visitants, the Northern Waxwing (*Ampelis garrulus*), put in an unusually early appearance this season. Flocks of from fifteen to twenty usually visit us during January and the first part of February, venturing into the city and feeding on the berries of the European mountain ash trees (*Pyrus aucuparia*) which grow on the streets in many places. This year, however, five specimens were observed feeding on the seeds of a black birch (*Betula nigra*) as early as November 11, and two others were seen a few days later.

Unfortunately for the Sparrows and other small birds, the Great Northern Shrikes (*Lanius borealis*) are pretty common here throughout the winter. They do not, however, seem to breed in this locality, for I have never heard of any being seen later than the end of April, or earlier than the beginning of September. A friend of mine shot one the other day, in the act of chasing a full-sized Chipmunk (*Tamias striatus*), but I think it questionable whether the bird would have been strong enough to kill and devour such large game.

The Pine Grosbeak (*Pinicola enucleator*) is always common here during the winter, but last season (1882-83) was particularly abundant. These birds are very tame, going boldly about our streets in great numbers, and they will often permit an observer to approach to within a few feet of them without manifesting the least alarm. On one occasion a gentleman went so far as to stroke one with his stick, whilst it was busily engaged in devouring some berries. Nothing daunted, however, the bird hopped upon the stick, and continued its meal from that novel perch. They usually stay with us from the end of November until the latter part of March; but last spring they were here as late as April 21, and this season they had arrived by the first of November.

The White-winged and Red Crossbills (*Loxia leucoptera* and *L. curvirostra americana*) remain with us from December to March; but while the latter are abundant, the former are quite rare. Last season a flock of five Red Crossbills was observed by Professor Macoun and Mr. Geo. R. White, as late as May 10; and in 1882 a flock of the White-winged species visited us towards the latter part of June.

Both the Lesser and the American Mealy Redpolls (*Ægiothus linaria* and *A. exilipes*) abound usually from December to March. Last spring, however, flocks were seen as late as May 10, and this year they arrived on October 30. Specimens of the latter species were kindly identified for me by Dr. Coues. While with us they feed on the seeds of the white cedar (*Thuja occidentalis*), hemlock (*Abies canadensis*) and mullien (*Verbascum thapsus*). Mr. White tells me that he noticed a flock a short time ago, feeding on pine cones. They were sending down such a shower of pieces of the cones that he at first took them for Crossbills; but, on shooting some of them, he discovered them to be Redpolls.

The Snow Bunting (*Plectrophanes nivalis*) is, with us, essentially a snow bird. It comes with the first fall, remains as long as the snow covers the ground, and when the snow melts, it goes also. It lives principally on the refuse of the streets, and on the seeds of weeds, which, like the mullein, project above the snow; but it is never seen to frequent trees of any kind. Our first fall of snow is generally about the first of November, and the ground is usually clear by the beginning of April.

The English Sparrows (*Passer domesticus*) are, unfortunately, but too common with us, during both winter and summer. They are very hardy, and stand our climate remarkably well. In order to protect themselves from the cold, they occupy their nests throughout the whole year; and this habit is fraught with very unpleasant consequences for the unfortunate inmates of the houses beneath whose protecting eaves the nests are built. For the nests get so infested with vermin, that the insect pests frequently descend into the houses, and make their presence felt in a manner much more forcible than pleasant. During the cold weather the Sparrows subsist mainly on the street refuse, and on food thrown to them from the windows; but I have also frequently seen them devouring the buds of the maple (*Acer saccharinum*) and other shade trees along the streets.

The Pine Finches (*Chrysomitris pinus*), although abundant here last winter, were not noticed in former seasons. They came towards the beginning of December, and seemed very loth to leave in the Spring, for one individual was observed as late as May 10. Their food is much the same as that of the Redpolls, in company with which species they are generally found. Like most of our other winter birds, they invade the city limits, and I have seen them feeding on the seeds of lamb's quarters (*Chenopodium album*), growing in a vacant lot on one of the public streets.

The Raven (*Corvus corax carnivorus*) is rare with us at any time, but is about as common in the winter as in the summer. None have been observed in the immediate vicinity of the city, but they are to be found within twenty miles of it, on the Ottawa, Gatineau, and Rideau Rivers.

The Common Crow (*Corvus frugivorus*) is usually represented by a few individuals each season, but is rarely seen near the city except during the thaws or 'mild spells.' One of the exceptions occurred this winter, when two were observed picking at the carcass of a dog, in an open field, while the thermometer registered —14° F.

Blue Jays (*Cyanocitta cristata*) are common about Ottawa at all seasons. From the end of the breeding season until the beginning of December they go about in flocks, but after that usually separate into twos and threes.

The Canada Jay (*Perisoreus canadensis*) is rare both in summer and winter. It is usually found singly or in pairs, but occasionally also in small flocks of about five or six.

The Shore Lark (*Eremophila alpestris*), though not properly a winter bird, nevertheless claims a few words in the present connection, on account of the very early date at which it arrives here from the south. It usually puts in an appearance as early as the 15th or 20th of February, long before there is any sign of a break in the winter weather. Professor Macoun tells me that it appears at Belleville about the 9th or 10th of February, and I believe at Toronto it is found though the entire winter. It generally leaves here in the fall about the beginning of December. While the snow is on the ground it feeds on the seeds of mulleins and other tall weeds.

Another species which claims mention solely on account of occasional early and late occurrences is the Robin (*Merula migratoria*). As a rule these birds are not seen here in any numbers until the beginning of April, and they are away before the beginning of October, but a few stragglers stretch those limits considerably, individuals having been observed in December and February.

Of the order Picariæ, only four species, all of the family Picidæ, can be properly called winter birds in this locality. These are the Downy Woodpecker (*Picus pubescens*), the Hairy Woodpecker (*Picus villosus*), the Black-backed Three-toed Woodpecker (*Picoïdes arcticus*), and the Banded-backed Three-toed Woodpecker (*Picoïdes tridactylus americanus*). Of these, the Downy and Hairy are common, both summer and winter, but are much less so during the latter season. The Black-backed Three-toed is not very uncommon in the summer, but is rarely met with during the cold weather. The Banded Three-toed has only been taken two or three times, and never in the summer. The only specimen I have known taken here is a female, which was shot on the 5th of last November, and is at present in the collection of Mr. White.

While on accidental stragglers, I should have recorded the occurrence of a Chimney Swift (*Chætura pelasgica*) which came under the notice of Mr. J. F. Whiteaves, Palæontologist and Zoölogist to the Geological survey of Canada. During the first week in February, 1883, a Swift came down the chimney and into a room in which that gentleman was sitting. The bird appeared somewhat dazed as it flew about the room, knocking over several articles in its career. It was caught and examined by Mr. Whiteaves, and remained alive for several days. Does this incident suggest hibernation to any of my readers?

NOTES ON *ARDEA WARDI* RIDGW.*

BY CHAS. W. WARD.

THESE birds were first noticed in 1883, on Kissimmee Lake, Florida, where three specimens were procured. With one exception these specimens were identical in size and coloration with those procured in 1881 at Estero Bay. The measurements of the two before me, taken when the birds were fresh, are as follows: No. 1. Culmen, 7.75; depth of bill, 1.40; tarsus, 10.00; middle toe, 5.75; naked tibia, 5.75. Eyes yellow; bill olive above and yellow below. Bare portion of tibia light yellow, shading into olivaceous at the knee-joint. Tarsus olivaceous in front, bright yellow behind; soles of feet and toes light yellow. No. 2. Culmen, 7.25; depth of bill, 1.20; tarsus, 8.50; middle toe, 5.25 naked tibia, 5.50. Eyes yellow. Bill uniformly lightish yellow Bare tibia, tarsus, and feet colored as in No. 1. This specimen differs in coloration from the type specimen in the head and neck The neck is a shade darker. The head is pure white, black crown patch smaller, white on forehead larger, extending back behind the occipital plumes, which are white, narrowing at the back of crown, where the elongated feathers are streaked and splashed with white. I first called this specimen *Ardea würdemanni*, bu Mr. Ridgway, upon comparing it with the type of *A. würdemanni*, pronounces it typical *A. wardi*, with an albinotic tendency. We found *A. wardi* nesting singly, and in groups o half-a-dozen to forty pairs. Several specimens were taken at different points on the Kissimmee River, Lake Okeechobee, and Charlotte Harbor, all being alike in color.

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* *Cf.* Bull. Nutt. Orn. Club, Vol. VII. Jan. 1882. p. 5.

A curious circumstance was the conspicuous absence of *A occidentalis* among the birds. In the entire region explored not a single specimen was observed. Several large heronries were examined on Lake Okeechobee (ranging in size from 10 to 40 nests), and not a single white bird, either old or young, could be found. In the Okeechobee heronries no other Herons nested, the ground being exclusively occupied by Snake Birds and *A. wardi*.

From March 1 to May 15, these birds were breeding. Young in every stage of development were found (as well as freshly laid eggs) during my entire sojourn. My observations have led to no definite or satisfactory conclusions regarding the status of *A. occidentalis*, *A. würdemanni*, and *A. wardi*. Through the regions explored *A. wardi* is abundant and *A. würdemanni* and *A. occidentalis* are exceedingly rare, if found at all.

It would appear from all the evidence at my command tha *A. wardi* has no white phase. The only evidence tending to substantiate the theory of dichromatism is the finding of a white and gray bird in the same nest at Estero Bay in 1881, and the bird procured last March, on Kissimmee Lake, with the white occipital plume. This would seem to be insufficient.

Mr. Cannon, a bird collector for many years on the Atlantic and Gulf coasts, coincides in the opinion that the white and gray birds are different species, stating that he has visited heronries composed entirely of *A. occidentalis* — not a single gray bird among them; and that he has yet to find a single instance where a white and gray bird have mated. Better evidence is needed to settle this question than is now at command.

NOTES ON *PHALACROCORAX VIOLACEUS*, AND ON *P. VIOLACEUS RESPLENDENS*.

BY N. S. GOSS.

THE Violet-green Cormorants are quite common along the Northwest Coast, but not easily captured, as they rarely alight upon the main land, even where the coast is high and precipitous, preferring the rocks and reefs off the shore which are more or less submerged at high tide. These form their natural fishing grounds and resting places and to which they return at night. They nest upon the sides of the higher rocks and inaccessible cliffs that in places form the frontage of the islands.

At Neah Bay and vicinity, Washington Territory, I had a very good opportunity to observe the birds from the 10th of January to the 6th of June, 1882. The following are the measurements, etc., as taken at the time of killing, of seven of the birds (four of which are in my collection): —

Locality.	Date.	Sex.	Length.	Stretch.	Wing.	Tail.	Tars.	Bill.	Weight.
Neah Bay,	Jan. 31.	♀	25.50	39.25	9.40	5.80	1.70	1.70	2lb. 14oz.
Neah Bay,	Feb. 13.	♀	25.75	39.10	9.30	6.00	1.70	1.80	3lb.
Neah Bay.	Feb. 16. juv.	♂	27.50	41.00	9.65	6.20	1.75	1.85	3lb. 5oz.
C. Flattery.	Feb. 19.	♂	28.50	42.50	10.00	6.50	1.80	1.95	3lb. 13oz.
Neah Bay.	May 13.	♂	29.00	43.50	10.50	6.70	1.80	1.95	3lb. 15oz.
Neah Bay,	May 13.	♀	25.75	39.35	9.40	6.00	1.70	1.85	2lb. 14oz.
Neah Bay,	June 4, juv.	♀	25.50	39.20	9.40	5.80	1.70	1.80	2lb. 14oz.

Iris of adults, green; of juveniles, brown. Bill dusky with an olive tint; in birds shot May 13, grayish on sides. Lores, bare space around eyes and gular sac dark purple-brown, dotted over with deep red papillæ. Legs, feet, webs, and claws black.

I notice that in all the descriptions of the birds that I have read the bare space around the eyes and gular sac are given as orange. This must be incorrect, as none of the many I shot were even tinged with this color, but were throughout of rather a deep reddish-brown or grape-juice color. I am inclined to think writers have followed Aububon, who gives the color as orange from a dried specimen sent to him by Mr. Townsend; and as the bill, legs, feet, and all bare spaces change rapidly to a darker color after death, it would be impossible to determine with any certainty from dried skins the true color in life.

The sexes are alike in color, the female being fully as lustrous as the male, the only difference in outward appearance being the smaller size of the female. Except during the breeding season, the birds are without the coronal and occipital crests and the white flank-patches. About the middle of February a few scattering white feathers begin to appear upon the flanks, and by the middle of May these patches are wholly white, and the two lateral crests on the head are full and complete. The short, white, *hair*-like feathers irregularly and sparingly scattered over the neck, and occasionally upon the back, I found about the same in all the adults, but I am inclined to think that they also belong to the breeding plumage and are not present in autumn. The young birds are rusty brown, and as many were of this color when I left (June 6), the birds must be two years at least in acquiring the adult plumage.

May 15, at Tatoash Isle (an islet close to Cape Flattery, just outside of the mouth of the Strait of Fuca), I found a few of these birds nesting up the south side of the high perpendicular cliffs. The nests were made of seaweed but were not bulky. On the top of the island were places where I could look down upon the birds, which I frightened away by dropping pieces of sod torn from the bank. Several nests were without eggs; others had one or two. It was my intention to return later, and also visit the 'Flattery Rocks,' where they nest in numbers, for the purpose of securing full sets of their eggs (three to four, white with a bluish-green tint); but an opportunity to cruise in a schooner that was to take Indians and their canoes to catch the fur seals was too tempting to be resisted, and on my return business engagements called me home.

P.S.—Since writing the above I have received and read Dr. J. G. Cooper's paper 'On a new Cormorant from the Farallone Islands, California.'* This is the *Graculus bairdi* Gruber, MSS., which Mr. Ridgway refers to *P. violaceus resplendens*. From the description given in the above-cited paper I might be led to think that the birds I have described must be Baird's Cormorant instead of the Violet-green, did not Dr. Cooper speak of the variety found on the coast of California as differing from the birds of the Oregon and Washington coasts in having, among other things, "conspicuous white patches on the flanks." But the birds of the Washington coast and vicinity have, as stated above, the white flank-patches, and also the color and markings given by Dr. Cooper for the more southern bird. The only difference (so far as I can judge) is the alleged smaller size of the so-called southern variety. But Dr. Cooper's measurements do not show this difference; and as Dr. G. Suckley, in his report on water birds in 'Explorations and Surveys for the Pacific Railroad' (Vol. XII, pt. 2, p. 268), gives the color of the female as brown, is it not possible that Mr. Gruber and others referred to by Dr. Cooper were of the same opinion, and that notes and measurements of specimens sent the Smithsonian Institution have not been from specimens sexually determined by dissection? If so the difference in size would be accounted for. But be this as it may, further investigation appears necessary to establish the validity of this supposed variety.

[The birds met with by Mr. Goss were apparently *P. violaceus resplendens*. My reference of *Graculus bairdi* Gruber to *P. resplendens* Aud. is based on an actual comparison of the type specimen of the latter with typical examples of the former, from the Farallone Islands. They are identical, except that the type of *resplendens* has no flank-patches; but, as Mr. Goss observes, this is purely a seasonal character, said white patches being present only in the breeding season. The true *P. violaceus* is a much more northern bird than *resplendens*, and differs chiefly, if not only, in its larger size. Its distribution extends from Kamtschatka through the Aleutian chain, and thence south along the coast of Alaska for an undetermined distance, but it probably does not occur on the coast of Washington Territory or Oregon, except in winter.—ROBERT RIDGWAY.]

BRIEF DIAGNOSES OF TWO NEW RACES OF NORTH AMERICAN BIRDS.

BY E. W. NELSON.

1. **Picoides tridactylus alascensis.** ALASKAN THREE-TOED WOODPECKER. — SUBSP. CHAR.: — Differing from *P. tridactylus americanus* in having the back much more broadly barred with white, the white bars

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* Proc. Acad. Nat. Sci. Phila., XVII, 1865, pp. 5, 6.

always more or less confluent; post-ocular white stripe much more distinct and dark bars of sides much narrower. *Hab.* Alaska and northern British America.

2. **Astur atricapillus henshawi.** HENSHAW'S GOSHAWK.—SUBSP. CHAR.:—Much darker than true *atricapillus*. Adult with the back slaty-black, instead of plumbeous, and lower parts very coarsely and heavily marked with dusky. Young with lower parts broadly striped with brownish black, and tibiæ heavily spotted with the same. *Hab.* Pacific coast region, from southern Arizona to Sitka, Alaska.

ANALECTA ORNITHOLOGICA.

BY LEONARD STEJNEGER.

I. THE OCCURRENCE OF *Turdus aliciæ* IN THE PALÆARCTIC REGION.

IN his 'The Birds of Bering Sea and the Arctic Ocean' (Cruise of the Corwin, Notes, p. 57), Mr. E. W. Nelson states that *Turdus* (*Hylocichla*) *aliciæ* Baird is found "across into Kamtschatka"; and a little later he says, "the record of the bird from Kamtschatka renders certain its presence on the adjoining shores of Northeastern Siberia."

I am not aware of any record of this species having ever been found in Kamtschatka, neither do I believe that it has been or ever will be found there. Mr. Nelson's statement probably rests on a mistake. The fact is, that the bird in question really has been found, and found breeding, and rather numerous, in that part of Northeastern Siberia where Nelson only supposes it to be found on account of its alleged occurrence in Kamtschatka.

The Russian Astronomical Expedition to Cape Tschukotsk found *Turdus aliciæ* breeding in the neighborhood of the station, and several specimens were brought to Irkutsk, and by the Geographical Society placed in the University Museum of that city, where they have been seen by Dr. Dybowski. They were destroyed by the great fire at the museum, but at least one specimen had previously been forwarded by that gentleman to the museum of Warsaw. The identity of this specimen was determined by Prof. Dr. Cabanis of Berlin.*

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* *Cf.* Taczanowski, Journ. f. Ornith., 1872, p. 440, and 1873, p. 112; *ibid.* Bull. Soc. Zool. France, 1876, p. 148; *ibid.*, Krit. Obz. Ornit. Fauna Vost. Sibiri (1877) p. 32.

II. ON THE EARLIEST AVAILABLE NAME OF THE AMERICAN TITLARK.

I am sorry to be obliged to claim that the appellation ***Anthus ludovicanus*** (Gm.) is more recent than *Anthus pensilvanicus* (Lath.).

Linnæus did not include the American Titlark in any of the original editions of his 'Systema Naturæ,' although it was both described and figured by earlier authors, viz., G. Edwards, who in his 'Gleanings of Natural History' gave on plate 297 a recognizable figure of a 'Lark' which was sent him from Pennsylvania by Mr. W. Bartram; and upon his plate and description is based Brisson's 'L'alouette de Pensylvanie' (Orn., VI, App., p. 94, No. 13). The 'Red Lark,' No. 140 of the 'British Zoology,' is said to be based on the same. Under the name 'Alouette aux joues brunes de Pensilvanie' Buffon, in 1778 (Hist. Nat, d. Ois., V, p. 58), repeated the description and quoted the plate, but also described (p. 38) a specimen of the same species from Louisiana as 'La Farlouzanne.' Latham, in 1783 (Gen. Synops. of Birds, Vol. II, pt. 2, p. 376), reprints these descriptions, the former as '7. Louisiane Lark,' and the latter as '8. Red Lark,' besides quoting under each heading the synonyms as given above. A reprint of the description of the 'Red Lark' is found in Pennant's 'Arctic Zoology,' II, p. 393 (1785). So far neither of the two alleged species had received any Latin name in accordance with the Linnæan binomial system (on Edward's plate, and in the text of Brisson, it was, however, named *Alauda pensilvanica*); but in 1787 Latham gave the 'Red Lark' the binomial name *Alauda pensilvanica.* It is the general notion that Latham did not use binomials in the Linnæan sense before he employed them in his 'Index Ornithologicus,' published in 1790, two years after Gmelin's 'Systema Naturæ'; but in the 'Supplement to the General Synopsis of Birds' (London, 1787) he gives, on p. 281 *et seq.*, 'A List of the Birds of Great Britain,' and in this list he for the first time applied binomials, coining new names for those which had not previously received such in Linnæus's 'Systema Naturæ.' The new names given by Latham are printed in italics, and reference is given to the descriptions in the 'Synopsis,' the 'Supplement,' and the 'British Zoology.' On p. 287, under 'Genus XXXIX,' we find, as one of "the more rare [British] Birds": "‖Red L[ark]. Synopsis, IV, p. 376. Br. Zool. I, No. 140.

ALAUDA *Pensilvanica*"; and in a footnote he thus explains the appearance of this species in a list of British Birds: "Now and then met with in the neighbourhood of *London*;* but more common in *America*."

It was in 1788 that Gmelin (Syst. Nat., I, p. 173) first applied the name *Alauda ludoviciana* to the 'Farlouzanne' of Buffon, while he, on the following page, bestowed *Alauda rubra* upon the 'Red Lark,' the bird of Edwards's plate. Gmelin knew nothing whatever of these birds, aside from the descriptions quoted above, and his diagnoses are wholly made up from them.

These early synonyms may be cited as follows: —

Alauda pensilvanica, EDW. Glean. pl. 297.
L'aluette de Pensylvanie, BRISS. Orn. VI, App. p. 94, No. 13.
Red Lark, PENN. Brit. Zool. No. 140.
Alouette aux joues brunes de Pensilvanie, BUFF. Hist. Nat. Ois. V, p. 58.
La Farlouzanne, BUFF. *ibid*, p. 38.
Red Lark, PENN. Arct. Zool. II, p. 393, No. 279.
Louisiane Lark, LATH. Syn. II, 2. p. 376, No. 7.
Red Lark, LATH. *ibid*. p. 376, No. 8.
1787.—*Red Lark*, *Alauda pensilvanica* LATH. Synops. Suppl. I, p. 287.
1788.—*Alauda ludoviciana* GMEL. Syst. Nat. I, 2, p. 793.
1788.—*Alauda rubra* GMEL. *ibid.*, p. 794.
1847.—*Anthus pensylvanicus*, THIENEMANN, Rhea, II, (p. 171).

The American Titlark will therefore stand as

Anthus pensilvanicus (LATH.) THIENEM.

III. A BRIEF REVIEW OF THE SYNONYMY OF THE GENUS *Compsothlypis* (= *Parula*).

Genus **Compsothlypis**† CAB.

1826.—*Chloris* BOIE, Isis, 1826, p. 972. (Type *Sylvia americana* LATH.). (*Nec* MOEHRING, 1752; *nec* SCHWARTZ *quæ* Gramin.; *nec* CUVIER, 1799, *quæ Ligurinus* KOCH.)

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* Instances of its capture in Europe of later years are not very frequent. See Dalgleish, Bull. Nutt. Orn. Cl., 1880, p. 69.

† From Gr. κομψός and θλυπίς. κομψός = cared for, adorned, elegant, from κομέω, I take care of (*cfr.* L. *comptus* and *como*), and kindred with κόμη (L. *coma*), the hair considered as an ornament for the head. Θλυπίς, a name of a bird said to be found in some codices of Aristoteles (VIII, 5. 4) where others have θραυπίς, or θραπις, a thistle-eating bird, not determinable (from θραυω, I break, with which is kindred θλάω, of the same signification, and θλίβω, I rub. Θραυπίς, θραπίς, θλαπίς, θλυπίς?).—*Com-pso-thly'-pis.*

1827.—*Sylvicola* SWAINSON, Zool. Journ. III, p. 160 (*nec* HARRIS 1782, *quæ* Dipt.; *nec* HUMPHR. 1797; *nec* HÜBN. 1810, *quæ* Moll.).
1838.—*Parula* BONAPARTE, Geogr. Comp. List, p. 20 (Type *Parus americanus* L.). (*Nec Parulus* SPIX, 1824, *quæ Synallaxis*).
1851.—*Compsothlypis* CABANIS, Mus. Hein. I, p. 20, (same type).

Professor Baird (Rev. Am. B., p. 168) and Dr. Coues (B. Color. Vall., I, p. 206) have both acknowledged that *Parula* Bp. is antedated by *Parulus* Spix, believing, however, that Boie's *Chloris*, might stand as the oldest name, "if Moehring's genera are to be rejected as pre-Linnæan." But *Chloris* was already given by Cuvier to a different genus of birds, embracing 'Les Verdiers' or the Green-Finches. Cabanis was therefore correct in stating that the older names were preoccupied, and in creating a new name, which will have to stand.

Before giving a short synopsis of the species, I take pleasure in introducing some remarks furnished me by my friend Robert Ridgway concerning the generic position of two species which have generally been referred to the genus *Parula* or *Compsothlypis*. They are as follows:

"Two Central American species, which have been usually referred to this genus, cannot properly be included; in fact, they apparently are much nearer the genus *Conirostrum* (assigned in the existing 'system' to the *Cœrebidæ*) than to *Compsothlypis*. From the latter they differ in having no trace whatever of a notch to the bill, and in the very slight development of the rictal bristles, both of which features are characters of *Conirostrum*. There are also other differences, which it is unnecessary to mention in the present connection. I do not believe, however, that these birds can be consistently placed in *Conirostrum*, the bill being much stouter, while there are other differences. It therefore seems desirable to give a new name to this group (the two species being apparently congeneric), and I accordingly propose that of *Oreothlypis*, with *Compsothlypis gutturalis* Cab. as type.

"The known species are (1) *Oreothlypis gutturalis* (Cab.) and (2) *Oreothlypis superciliosa* (Hartl.)."

Synopsis.

a^1 Eyelids white . . . . 1. *C. americana.*
a^2 Eyelids dusky or black.
  b^1 Abdomen white.
    c^1 Lores gray . . . . . 2. *C. insularis.*
    c^2 Lores black . . . . . 3. *C. nigrilora.*

b^2 Abdomen yellow.
  c^1 Two white bands on wing . 4. *C. pitiayum*
  c^2 Only a trace of white on wings or none at all . . 5. *C. pitiayumi inornat*

1. Compsothlypis americana (Lin.) Cab.

1758.—*Parus americanus* Lin. S. N. ed. 10, p. 190.
1783.—*Motacilla eques* Bodd. Tabl. Pl. Enl. p. 46 (Ed. Tegetm.).
1788.—*Motacilla ludoviciana* Gmel. S. N. I, 2, p. 983.
1807.—*Sylvia torquata* Vieill. Ois. Am. Sept. II, p. 58.
1811.—*Sylvia pusilla* Wils. Am. Orn. IV (p. 17.)
1851.—*Compsothlypis americana* Cab. Mus. Hein. I, p. 20.

Parula americana Ridgw. Nomencl. No. 88.—Coues, Check L. 2 e No. 93.—Salv. & Godm. Biol. Centr. Amer. I. p. 119.—Scl. & Sal Nomencl. Neotr. p. 8.

2. Compsothlypis insularis (Lawr.) Stgr.

1871.—*Parula insularis* Lawr. Ann. N. Y. Lyc. X, p. 4.
1874.—*Parula pitiayumi* var. *insularis* B. Br. & Ridgw. Hist. N. Ame B. I, p. 207.

Parula pitiayumi insularis Ridgw. Nomencl. No. 89.
Parula insularis Salv. & Godm. Biol. Centr. Am. I, p. 121.

3. Compsothlypis nigrilora (Coues) Stgr.

1878.—*Parula nigrilora* Coues. Bull. U. S. Geol. & Geogr. Surv. Terr. IV (p. 11).
1878.—*Parula pitiayumi* var. *nigrilora* Coues, Birds. Color. Vall. I, p. 208.

Parula pitiayumi nigrilora Ridgw. Nomencl. No. 89*a*.
Parula nigrilora Coues, Check L. 2 ed. No. 94.—Salv. & Godm. Biol. Centr. Amer. I, p. 121.

4. Compsothlypis pitiayumi (Vieill.) Cab.

1817.—*Sylvia pitiayumi* Vieill. N. Dict. d'Hist. Nat. XI, p. 276.
1822.—*Sylvia plumbea* Swains. Zool. Ill. II (pl. 139) (*nec* Lath.).
1823.—*Sylvia brasiliana* Licht. Doubl. Verzeichn. p. 35.
1838.—*Sylvia venusta* Temm. Pl. Col. III, fol. ed. pl. 293. fig. 1.
1851.—*Compsothlypis pitiayumi* Cab. Mus. Hein. I, p. 21.
1874.—*Parula pitiayumi* var *pitiayumi* B. Br. & Ridgw. Hist. N. A. B. I, p. 207.

Parula pitiayumi Scl. & Salv. Nomencl. Neotr. p. 8.

5. Compsothlypis pitiayumi inornata (Baird) Stgr.

1860.—*Parula brasiliana* Scl. & Salv. Ibis, 1860, p. 397 (*nec* Licht.).
1864.—*Parula inornata* Baird, Rev. Am. Birds, I, p. 171.
1874.—*Parula pitiayumi* var. *inornata* B. Br. & Ridgw. Hist. N. A. B. I, p. 208.

Parula inornata Salv. & Godm. Biol. Centr. Amer. I, p. 120.—Scl. & Salv. Nomencl. Neotr. p. 8.

IV. On the earliest available Name of the Cardinal Grosbeak.

In Scopoli's 'Annus I. Historico-Naturalis' (Leipzic, 1769) we find, on pages 139 and 140, the following description:—

"203. LOXIA rubra.

Loxia rubra, facie nigra. *Linn.* l. c. n. 5.

Diagn. *Tota rubra, una cum rostro.*

Femora tamen magis fusca.

[p. 140] In M. T.

Apta nomina rebus imponenda; nec innocens studium sit turpe instrumentum, quo religio aliqua ludibrio exponatur."

The following is a correct translation, with the addition of the full explanation of the abbreviations:—

"203. Loxia rubra.

Red grosbeak, with black face. Linn., Syst. Nat. ed. 12, I, p. 300, n. 5.

Diagn. Red all over in common with the bill. Thighs, however, more dusky.

In the Museum of Count von Thurn (in museo excell. comitis Francisci Annib. Turriani).

One ought to give appropriate names, in order that the innocent science shall not become the infamous means of exposing any religion to ridicule."

It may be well at once to append here, for the benefit of the reader, the footnote,* with which the German translator, Dr. T. C. Günther, thought it necessary to explain the sentence above. He says:

"This sentence of our author is incomprehensible to any one who does not know beforehand that this American bird, in Holland and England, is called the Cardinal on account of its beautiful red color. We have made this remark, although we ourselves are of the same opinion, that things offensive to any religion should be omitted in every science" (l. c.). What would Messrs. Scopoli and Günther say if they could rise from their graves, and see that we use *Cardinalis* as a generic name, and that some heretics are not opposed to the specific appellations *Carduelis carduelis* and *Cardinalis cardinalis igneus*?

In fact, the bird which Linnæus describes as No. 5 of the genus *Loxia*, in his 'Syst. Nat.' (ed. 12, p. 300), is none other than the

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* p. 166, footnote (... Johann Anton Scopoli ... Bemerkungen aus der Natur-Geschichte, Erstes Jahr ... aus dem Lateinischen übersetzt und mit einiger Anmerkungen versehen von [illegible] Friedrich Christian Günther ... Leipzig ... 1770.

Cardinal Grosbeak—*Cardinalis virginianus* Bp: "Loxia ca dinalis 5. L. cristata rubra, capistro nigro, rostro pedibusqu sanguineis . . . . Coccothraustes rubra. *Catesb. car.* I. *p.* 38. 38 . . . . *Habitat in* America *septentrionali* . . . ." Bonaparte' name *virginianus* dates from 1838; Scopoli's *rubra* from 176 As the case does not involve any doubt, and the synonymy clear, I shall only briefly enumerate the forms mentioned i Baird, Brewer, and Ridgway's 'History of North-American Bird (III, p. 99). Their names will stand as follows:

1. *Cardinalis ruber* (Scop.).
   Ridgw. Nomencl. n. 242.—Coues, Check list, 2 ed. n. 299.
2. *Cardinalis ruber igneus* (Baird).
   Ridgw. *l. c.* n. 242*a*.—Coues, *l. c.* n. 300.
3. *Cardinalis ruber coccineus* (Ridgw.).
4. *Cardinalis ruber carneus* (Less.).

It will be seen that the gender of the genus-name is given as masculine. Dr. Coues, in the second edition of the 'Check list' (p. 60), writes '*Cardinalis virginiana*,' and remarks: "As a Latin word, *Cardinalis* is only an adjective; used substantively, its gender is either masculine or feminine. We take the latter, because most words ending in *is-* are feminine."

But, in the first place, as the name *Cardinalis* is "applied with obvious signification to the chief officials of the Pope," its gender ought to be masculine, as is that of these "red-wearing dignitaries;" and in the second place, *Cardinalis* "Bp. 1838," is undoubtedly masculine, as this author writes '*Cardinalis virginianus*.' In the special sense of genus-name for the Red Grosbeaks it certainly is masculine, and if it is the *rule* that "words ending in *is-* are feminine," this word belongs most emphatically to the *exceptions*. We are more satisfied as to the correctness of this opinion, since Dr. Coues himself states that the gender of *cardinalis* is 'either masculine or feminine.'

V. MORE "ORNITHOPHILOLOGICALITIES."

Without further comment I offer the following supplemental notes about the derivation of some of the systematic names of North American birds, which may perhaps be of value in relation to the discussion at present being carried on.

No. 595. *Hæmatopus ostrilegus.*—Sundevall's emendation is *ostreologus.* There is no need of emending Linnæus's name into *ostrilegus*, as he so wrote it himself in the 'Fauna Svecica,' 2nd ed., p. 69 (1761).

No. 598. *Strepsilas interpres.—Interpres* is a translation of the Swedish vernacular name 'tolk,' interpreter. Nilsson informs us, however, that Linnæus was mistaken in applying it to this bird, as it is *Totanus calidris* which in Sweden is called 'tolk,' on account of its loud voice, by means of which it warns the other birds from the skulking gunner (Skand. Fauna Fogl., 3d ed. II. p. 171).

No. 606. *Scolopax rusticula. Rusticola* was 'emended' into *rusticula* as early as 1779 by Bock in 'Naturforscher.' XIII. p. 211, and he was followed by Gloger, Naumann, Schilling, and Cabanis, the latter also informing us that it was written so by the Romans—Plinius, Columella, etc. (J. f. Orn., 1853, p. 374).

No. 678. *Porzana maruetta.*—'Marruette.' as the French write it, seems to be rather of Spanish origin than Italian. The Spanish word *marjál* (pronounced *marshal*) means a marsh (Fr. *marais*). Or it may simply be derived from *mar.* = sea, large lake, and the ending *éta* (*cf. gallinéta*). Another similar word, *marhojo*, is said to mean moss.

No. 690. *Cygnus musicus.*—The term *musicus* is applied in allusion to the alleged song of the dying swan (*cf.* Aristoteles, Hist. Amin., lib. IX, c. 12).

No. 712.—Linnæus wrote *penelope* in 1758, and *penelops* in 1761.

No. 728. *Harelda* .—This is probably only a typographical error for *Havelda*, which is the Icelandic and Norwegian name of the bird, *Hav* meaning sea, ocean.

No. 739. *Perspicillata.*—After all, Dr. Coues did not 'guess aright,' even 'as a matter of fact.' It is true it does not mean "spotted, as if covered with looking-glasses," but simply "supplied with spectacles" (*perspicilla* of mediæval or later Latin = spectacles). The definition is clearly given in Steller's and Pallas's descriptions of *Phalacrocorax perspicillata*: "Circulo cutaneo oculos ambiente albo . . . . Ob oculorum circulos quasi perspicilla referentes . . . . ridicula admodum avis . . . . Foemina minor, crista perspicilloque destituta." (Zoogr. Ross. Asiat., II, p. 305).

No. 746. *Sula.*—Nilsson says: "*Sula* or *Sulu* is an old Norwegian word still in use in the mountains, and means swallow. *Havsula* is then sea-swallow, the name having been applied to this bird on account of its high and beautiful flight; the Black Stork is for the same reason called 'Odin's Swallow.'" (Skand. Fauna Fogl., 3 ed. II, p. 510.)

No. 765. *Stercorarius pomatorhinus.*—Temminck's *pomarinus* might perhaps have a similar derivation as *pomoerium*, from *post* and *moerium*, or *pomeridionalis*, from *post* and *meridionalis*. It may also be mentioned that *pomarinus* is a by no means uncommon form for *pomeranus*. It is most probable that Temminck never thought of a derivation from **πῶμα** and **ῥίς**, as first suggested by Preyer and Zirkel (not Newton).

SMITHSONIAN INSTITUTION.
Washington, D. C., Feb. 13. 1884.

BIRD NOTES FROM LONG ISLAND, N. Y.

BY WILLIAM DUTCHER.

For the purpose of determining the date of migration, the speci- migrating, and the numbers that are destroyed by striking a ligh house during a spring and fall migration, I have for the past tw years received all the birds killed by flying against Fire Isla Light. This light is of the first order, flashing white eve minute; is 168 feet above the level of the sea, and is visib 19¼ nautical miles. It is located on the east side of Fire Islan Inlet, south side of Long Island, N. Y., north latitude 40° 37 57″, west longitude 73° 13′ 9″.[*]

I also received from Great West (or Shinnecock) Bay Light part of those that were killed the night of September 30, 1883. This light is also of the first order, but is a fixed white light; is 160 feet above the sea level, and is visible 18¾ nautical miles. It is located 45 miles east of Fire Island Light, on the main land, about one mile north of the beach. Fire Island Light is built on the beach, which is separated from the main land by Great South Bay, which is here some six miles wide. I am not aware that a fully identified list of the birds striking any lighthouse has ever been published; the only work of this nature for the United States being the reports of a few light keepers (the birds not being identified), collated and published by Mr. J. A. Allen,[†] and the reports by Messrs. John A. Harvie Brown, John Cordeaux, and others for the British Islands.[‡]

The records herewith submitted cover so short a period that nothing can be deduced from them at the present time. I am indebted for the notes and birds received during 1882, and in the spring of 1883, to Mr. C. A. Blydenburgh, First Asst. Keeper, and in the autumn of 1883, to Mr. S. R. Hubbard, Keeper of Fire Island Light. They are both deserving of thanks for the pains they have taken to keep accurate records, and also for sending me all the birds it was possible to secure.

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[*] List of Lighthouses, Lighted Beacons, and Floating Lights of the Atlantic, Gulf, and Pacific Coasts of the United States. Washington: Government Printing Office, 1883.

[†] Destruction of Birds by Lighthouses. By J. A. Allen. Bulletin of the Nuttall Ornithological Club, Vol. V, p. 131, 1880.

[‡] Report on the Migration of Birds in the Autumn of 1879. By John A. Harvie Brown and John Cordeaux. The Zoologist, Vol. IV, May, 1880.

Report on the Migration of Birds in the Spring and Autumn of 1880. By John A. Harvie Brown, F.L.S., F.Z.S., John Cordeaux, and Philip Kermode. London, 1881.

Report on the Migration of Birds in the Spring and Autumn of 1881. By John A. Harvie Brown, Mr. John Cordeaux, Mr. Philip M. C. Kermode, Mr. R. M. Barrington, and A. G. More. London, 1882.

SPRING MIGRATION, 1882.

"Some Robins and other small birds came against the tower one night this week; none were killed. I think these were the first small birds of the season."—C. A. B., March 16.

"I have not been able to get a single bird since I wrote to you last. We have had no bad weather since the flight of small birds commenced."—C. A. B., April 18.

"I am sorry to keep you without birds. I see plenty, but the nights are so clear that they do not strike the tower."

May 9. Wind N. E. Rain.

Galeoscoptes carolinensis, 1.
Siurus auricapillus, 1.
Zonotrichia leucophrys, 1.
Zonotrichia albicollis, 4.
Spizella domestica, 1.
Melospiza lincolni, 3.
Pipilo erythrophthalmus, 1.
Tringoides macularius, 1.

"I send you thirteen birds which struck against the tower last night. A great many struck, but these are the only dead ones."—C. A. B., May 10.

"We have had bad weather all the time since I sent you the birds. It has been too rough for small birds to fly."—C. A. B., May 15.

May 18 and 19. Wind N. E. Hazy.

Harporhynchus rufus, 1.
Siurus nævius, 3.
Geothlypis trichas, 2.
Pipilo erythrophthalmus, 1.
Rallus longirostris crepitans, 3.

"I forward you ten birds which struck during the past two nights. Quite a number more struck, but it was impossible to get them. Many fall in the grass at some distance from the foot of the tower, and cannot be found until after they are spoiled."—C. A. B., May 20.

May 20 and 21. Wind N. E. Cloudy and thick.

Harporhynchus rufus, 1.
Parula americana, 1.
Geothlypis trichas, 2.
Setophaga ruticilla, 1.

Total in spring migration, 28.

AUTUMN MIGRATION, 1882.

"I begin to hear birds about nights, but we have had no weather to get any yet. If we were to have a foggy night you would hear from me at once."—C. A. B., Aug. 11.

Aug. 13. Wind, not given. Calm and clear.

Dendrœca æstiva, young, 1.

Aug. 14. Wind N. Clear.

Siurus nævius, 1.

Aug. 20. Wind N., fresh. Clear.

Ammodromus maritimus, 1.

Sept. 3. Wind S. W., fresh. Foggy.

Dendrœca pinus, 1.

Gulls, sp.? 3. (Probably Terns some kind. The birds were sent to me.)

Sept. 9. Wind S. E., light. Thick.

Dendrœca striata, 3.
Siurus auricapillus, 2.
Siurus nævius, 6.
Geothlypis trichas, 2.
Setophaga ruticilla, 1.
Vireosylvia olivacea, 1.
Passerculus sandwichensis savanna, 1.
Porzana carolina, 1.

Sept. 10. Wind S. E., light. Thick.

Dolichonyx oryzivorus, 1.
Porzana carolina, 1.

Sept. 13. Wind, not stated. Weather, not stated.

Geothlypis trichas, 1.

Sept. 16. Wind N. E., moderate. Clear.

Siurus nævius, 1.
Ampelis cedrorum, 1.

Sept. 20. Wind S. E., moderate. Hazy.

Hylocichla unalascæ pallasi, 1.
Mniotilta varia, 1.
Parula americana, 8.
Dendrœca æstiva, 1.
Dendrœca maculosa, 1.
Dendrœca discolor, 1.
Siurus auricapillus, 1.
Siurus nævius, 1.
Geothlypis trichas, 8.
Setophaga ruticilla, 2.
Vireosylvia olivacea, 21.
Lanivireo flavifrons, 1.
Vireo noveboracensis, 2.
Melospiza palustris, 1.
Ampelis cedrorum, 1.
Porzana carolina, 3.
Sp.? 22. (Birds not sent to me.)

Sept. 21. Wind S. E., moderate. Rain.

Parula americana, 1.
Vireosylvia olivacea, 3.

Sept. 24. Wind, ? Weather, ?

Siurus nævius, 1.
Vireosylvia olivacea, 1.

Sept. 25. Wind N. E., blowing hard. Rain.

Sp. ? 3. Birds not sent to me.

Oct. 6. Wind, E., moderate. Hazy.

Vireosylvia olivacea, 1.
Melospiza fasciata, 1.
Sp. ? 2 (Birds not sent to me.)

Oct. 11. Wind N. E., moderate. Thick.

Hylocichla ustulata swainsoni, 2.
Galeoscoptes carolinensis, 1.
Anthus ludovicianus, 1.
Parula americana, 4.
Dendrœca coronata, 4.
Dendrœca striata, 2.
Geothlypis trichas, 6.
Vireosylvia olivacea, 2.
Lanivireo solitarius, 1.
Chrysomitris pinus, 1.
Passerculus sandwichensis savanna, 6.
Melospiza palustris, 5.
Sp.? 6. (Birds not sent to me.)

Oct. 12. Wind N. E., fresh. Cloudy.

Dendrœca coronata, 1.

"There are a great many birds on the wing now, and if we could have foggy night I could get you plenty."—C. A. B., Oct. 13.

Oct. 13. Wind N. E., fresh. Rain.

Dendrœca coronata, 2.
Dendrœca striata, 1.
Geothlypis trichas, 1.
Vireosylvia olivacea, 1.
Passerculus sandwichensis savanna, 1.
Melospiza fasciata, 1.

Oct. 15. Wind N. E., fresh. Cloudy.

Sterna fluviatilis, 1.

Oct. 18. Wind N., moderate. Hazy.

Vireosylvia olivacea, 1.

"A number of Big Yellow-legs passed last night."—C. A. B., Oct. 19.

Oct. 20. Wind N. E., moderate. Cloudy.

Dendrœca striata, 1.

Oct. 21. Wind? Weather?

Geothlypis trichas, 1.

Nov. 5. Wind N. E., fresh. Cloudy.

Chrysomitris pinus, 1.

Nov. 10. Wind N. E., moderate. Hazy.

Dendrœca cærulescens, 1.
Dendrœca coronata, 11.
Passerculus sandwichensis savanna, 1.

Nov. 12. Wind N. W., fresh. Cloudy.

Podiceps holboelli, 1.

Nov. 16. Wind N. E., moderate. Cloudy and rainy.

Spizella montana, 1.
Passerella iliaca, 2.

Nov. 30. Wind? Weather?

Harelda glacialis, 1.

Dec. 2. Wind N. W. Hazy.

Regulus satrapa, 1.
Junco hyemalis, 36.

Dec. 10. Wind N. E., moderate. Rain.

Harelda glacialis, 1.

Total in Autumn migration, 228.

Total in Spring migration, ...	28
Total in Autumn migration, ...	228
Total for year, ...	256
Species in Spring, ...	14
Species in Autumn, ...	38

SPRING MIGRATION, 1883.

Jan. 4. Wind N., fresh. Snowy.

Ducks, sp. ? 2. (Birds not sent to me.)

Jan. 5. Wind N. E., fresh. Snowy.

Clangula glaucium americana, 1.

Jan. 13. Wind S. W., fresh. Rainy.

Scoter, sp? 1. (Bird not sent to me.)
Clangula glaucium americana, 1.

Jan. 24. Wind W., moderate. Cloudy.

Mergus serrator, 1.

Feb. 14. Wind? blowing hard.

Plectrophanes nivalis, 1.

Feb. 27. Wind N. W., fresh. Snowy.

Sp.? 1. (Bird not sent to me.)

Plectrophanes nivalis, 1.

March 3. Wind N. W., fresh. Clear.

Fulix marila, 3.

April 4. Wind S. W., fresh. Showery.

Passerella iliaca, 3.

Melospiza fasciata, 1.

Junco hyemalis, 1.

Merula migratoria, 2.

April 7. Wind N., moderate. Cloudy.

Sayornis fuscus, 2.

April 11. Wind N. E., fresh. Foggy.

Œdemia americana, 1.

April 14. Wind S. E., moderate. Cloudy.

Passerculus sandwichensis savanna, 2.

May 14. Wind S. E. Rain and light fog.

May 15. "Wind N. E. to N. Rain and fog. Cleared off at 11 P. M. No birds struck after the fog cleared away; although I saw a great many flying in the rays of the light, they did not strike hard enough to be killed."— C. A. B.

Siurus auricapillus, 2.

Siurus nævius, 1.

Geothlypis trichas, 5.

Myiodioctes canadensis, 1.

Vireosylvia olivacea, 1.

Pyranga rubra, 3.

Totanus melanoleucus, 1.

Sp.? 7. (Birds stolen in transit.)

Total in spring migration, 45.

Autumn Migration, 1883.

"I see that small birds are on their course, but they want a thick night to strike."— S. R. H., Aug. 22.

Aug. 29. Wind E. N. E. Cloudy.

Siurus nævius, 1.

"This is the only bird which struck last night that was killed."—S. R. H., Aug. 30.

Sept. 1. Wind, not stated. Weather, not stated.

Dendrœca pinus, 1.

Sept. 9. Wind N. E., fresh. Clear.

Hylocichla unalascæ pallasi, 1.

Siurus nævius, 1.

Geothlypis trichas, 1.

Sept. 13. Wind N. E., strong. Rain.

Parula americana, 1.

Siurus auricapillus, 1.

Vireosylvia olivacea, 1.

"There don't appear to be any birds on the course."— S. R. H.

Sept. 29. Wind N. E., moderate. Cloudy.

Hylocichla fuscescens, 3.

Hylocichla aliciæ, 8.

Hylocichla ustulata swainsoni, 3.

Dendrœca striata, 5.

Dendrœca blackburniæ, 1.

Dendrœca virens, 2.

Siurus auricapillus, 5.

Geothlypis trichas, 4.

Vireosylvia olivacea, 9.

Pyranga rubra, 1.

Coccyzus erythrophthalmus, 1.

Rallus virginianus, 1.

"I did not know as any more would strike. I have never in my stay here seen so few birds strike in a fall."—S. R. H., Sept. 29.

Sept. 30. Wind varying N. to E. Thick to rain.

Hylocichla fuscescens, 29.
Parula americana, 2.
Dendrœca striata, 230.
Siurus auricapillus, 3.
Oporornis agilis, 16.
Vireo noveboracensis, 20.
Pyranga rubra, 7.
Sayornis fuscus, 2.
Sphyropicus varius, 1.
Ceryle alcyon, 1.
Coccyzus erythrophthalmus, 9.
Charadrius dominicus, 1.

"I send you a box of birds which struck Sunday night, Sept. 30. It is the first regular flight this fall, when the weather has been favorable for them to strike. I send one bird I don't remember to have ever seen strike before, viz., a Kingfisher."—S. R. H., Oct. 1.

Oct. 4. Wind N. W., moderate. Hazy.

Hylocichla ustulata swainsoni, 1.
Parula americana, 2.
Vireosylvia olivacea, 6.
Pyranga rubra, 1.

Oct. 12. Wind N. E., fresh. Storming.

Hylocichla ustulata swainsoni, 25.
Dendrœca cærulescens, 48.
Oporornis agilis, 18.
Vireosylvia olivacea, 15.
Pyranga rubra, 7.
Passerculus sandwichensis savanna, 17.

Nov. 11. Wind, not stated. Thick fog and rain.

Regulus calendula, 3.
Junco hyemalis, 1.
Eremophila alpestris, 1.

Total in Autumn migration, 517.

Total in Spring migration,	45
Total in Autumn migration,	517
Total for year,	562
Species in Spring,	21
Species in Autumn,	27

AUTUMN MIGRATION, 1883.

Shinnecock Bay Light.

Sept. 30. Wind N. to E., varying. Thick to rain.

Hylocichla fuscescens, 1.
Hylocichla aliciæ, 2.
Hylocichla ustulata swainsoni, 1.
Parula americana, 1.
Dendrœca striata, 59.
Siurus auricapillus, 1.
Oporornis agilis, 3.
Geothlypis trichas, 1.
Vireosylvia olivacea, 4.
Pyranga rubra, 2.
Sp. ? about 85. (Birds not sent to me.)

Total, 160.

"I send you 75 birds.—About 160 struck Sunday night, Sept. 30, but a great many were spoiled by the rain-storm."—L. G. Squires, Oct. 1.

CHARACTERS OF A NEW SPECIES OF PIGEON OF THE GENUS *ENGYPTILA*, FROM THE ISLAND OF GRENADA, WEST INDIES.

BY GEORGE N. LAWRENCE.

Engyptila wellsi.

Female: The front is whitish, with a slight tinge of fawn color on the anterior portion, and is of a bluish cast on the posterior; the crown and occiput are dark brown; the hind neck is of a rather lighter brown; the back, wings, and upper tail-coverts are of a dull olivaceous-green; the first outer tail-feather is brownish-black, narrowly tipped with white; the second is dark brown for two-thirds its length, terminating in blackish; all the other tail-feathers are dark umber brown above, are black underneath; the chin is white; the neck in front and the upper part of the breast are of a reddish fawn color; the middle and lower parts of the breast and the abdomen are creamy-white; the sides are of a light fulvous color; the under tail-coverts are white, tinged with fulvous; the quills have their outer webs of a clear warm brown; the inner webs and under wing-coverts are of a rather light cinnamon color; the bill is black; the tarsi and toes are bright carmine red.

Mr. Wells says the sexes are alike. Length 10.25 inches; wing, 6.00; tail, 4.00; bill, .63; tarsus, 1.25.

Habitat: Island of Grenada.

Type in National Museum, Washington.

Remarks. In coloration this species bears no resemblance to any other member of the genus; it is of about the size of my *E. cassini* from Panama, and like that, it has the front light colored (though of a different shade) and the chin white; but they are unlike in all other particulars.

I have named it in compliment to James G. Wells, Esq., of Grenada, by whom it was obtained.

Mr. Wells has been collecting the birds of Grenada for some time, and sending them for identification as they were procured, having in view the publication of a list of the birds of the Island, with his observations thereon.

Sometime since Mr. Wells sent me as complete a list of the birds of the Island as he was able to make out at that time. On this list one of the species was enumerated as 'Pea Dove' but no specimens of it were ever sent. I wrote him that its determination was important, and to endeavor to procure examples. He replied that he was unable then to visit the district inhabited by it. But a few days ago I was much pleased to receive by mail the specimen now described, and agreeably surprised to find it an undetermined species.

He says: "Since I last wrote you, I have been able to procure four live specimens of the Dove, called 'Pea Dove' in my list; one of them died a day or two ago, and I send you the skin, which will serve to identify the bird."

On the label is "Pea Dove, ♀. Sp.? Caught alive at Fontenoy, St. Georges, Grenada, 16 Feb., 1884. Iris pale buff."

RECENT LITERATURE.

Stejneger on the American Turdidæ.*—The so-called 'family' Turdidæ is here taken in nearly its usually accepted sense, except that the Miminæ, so frequently embraced within it, are excluded, leaving the group as here treated nearly equivalent to the Turdinæ of Mr. Seebohm's late monograph of the family.† Dr. Stejneger begins his memoir by sharply criticizing Mr. Seebohm's generic groups among the 'Turdinæ,' the construction of which he considers "very radical and opposed to commonly accepted views"; and states that his own paper "may be regarded as a reaction provoked by the arrangement proposed in the above mentioned work." Dr. Stejneger believes that the test "of color or pattern of color as the only character which indicates near relationship," as applied by Mr. Seebohm, is arbitrary and leads to inconsistent results; and he devotes several pages to 'showing up' some of these inconsistencies, and in pointing out that structural characters are much sounder indices of relationship. He believes that Professor Baird's arrangement of the American Thrushes, in his 'Review of American birds,' though presented 'sixteen to eighteen years ago,' 'is still the best treatment of the subject extant.' He modifies this arrangement, however, by throwing out the Mocking Thrushes, and adding the so-called 'family' Saxicolidæ. In this he is in accord with the views of several recent writers on the subject. The family Turdidæ, as thus restricted, he divides into two sub-families, viz., Turdinæ (sub-divided into the groups Sialieæ, Saxicoleæ, Turdeæ, Luscinieæ, and Meruleæ), and Myadestinæ (sub-divided into Platycichleæ and Myadesteæ). The group Sialieæ includes two genera.—*Ridgwayia* (gen. nov., type *Turdus pinicola* Scl.) and *Sialia*. The group Saxicoleæ is represented in North America by the single genus *Saxicola*, but includes the Old World genera *Pratincola*, *Ruticilla*, etc. The group Turdeæ includes the three genera *Hylocichla*, *Turdus*, and *Hesperocichla*. The group Luscineæ has for American representatives the genus *Catharus*, and possibly *Cyanecula*, which has been supposed to occur in Alaska. The Meruleæ includes *Merula*, *Semimerula*, *Cichlherminia*, and *Mimocichla*. The Platycichleæ includes *Cossyphopsis* (gen. nov., type *Turdus reevei* Lawr.), *Platycichla*, and *Turdampelis*. The Myadesteæ contains the single genus *Myadestes*, from which, however, *M. leucotis* (Tschudi) is removed, being transferred, as the type of a new genus *Entomodestes*, to the Ptilogonatidæ. As regards the much 'emended' name *Myadestes*, Dr. Stejneger revives Swainson's original orthography, which he maintains is correct.

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* Remarks on the Systematic Arrangement of the American Turdidæ. By Leonhard Stejneger. Proc. U. S. Nat. Mus., 1882, pp. 449-483, with numerous cuts. Feb. 13, 1883.

† Catalogue of Birds in the British Museum, Vol. V, 1881. (See review of this work in Bull. Nutt. Orn. Club, VIII, pp. 99-104.)

The genus *Cichlherminia*, as Dr. Stejneger observes, has been regarded as an intermediate link between the true Thrushes and the Mocking Thrushes. But he affirms that this has resulted from the fact that very diverse species have been associated under *Cichlherminia* (vel *Margarops*), a part of which are true Thrushes and part Mocking Thrushes. *Cichlherminia* (type *C. herminieri*), in a restricted sense, is retained among the Turdinæ, while the other species, forming the restricted genus *Margarops*, are placed among the Miminæ, the former alone being found to have a booted tarsus.

Dr. Stejneger's synopsis of the family extends only to the genera and higher groups as represented in America. The generic synonymy is fully given, and the generic diagnoses are supplemented by general remarks and figures illustrative of the principal generic characters.—J. A. A.

Coues on the Structure of Birds' Ears.—Dr. Coues, in a series of three articles recently published in 'Science,'* gives a clear and detailed account of the mechanism of the ear in birds, taking the human ear as the chief basis of comparison. The articles are illustrated with figures—after Parker and Ibsen—which aid greatly to a clear conception of the structures described.—J. A. A.

Jeffries on the Epidermal System of Birds.†—Mr. Jeffries's paper, of nearly forty pages and three plates, reports the results of his studies of the epidermal appendages in birds, with reference to their structure, development, and homologies. These appendages embrace the feathers, scuta, claws, spurs, toe-pads, bill, combs, wattles, and the spines of the tongue and mouth, which have been studied as found in the adult, and their development traced from the fourth day of incubation. The structure of mature feathers is not considered, this part of the subject having already received so much attention. Mr. Jeffries's investigations have been based mainly on the common chick and duckling, yet many forms in other orders have been examined, and in all cases found to agree so closely with the two types specially investigated, that "any statement made for the chick may in all probability be extended to cover the entire group of carinate birds."

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* A Hearing of Birds' Ears. By Elliott Coues. Science, Vol. II, Nos. 34, 38, and 39, pp. 422-424, 552-554, 586-589, Sept. 28, Oct. 26, Nov. 2, 1883, figg. 9.

† The Epidermal System of Birds. By J. Amory Jeffries. Proc. Boston Soc. Nat. Hist., Vol. XXII, pp. 203-240, pll. iv-vi. Dec. 1883.

The scope and character of the paper may be further indicated by the following transcript of its sub-headings:—

(1) Adult Skin; (2) Development of the Epiderm; (3) Development of Embryo Feathers; (4) Development of Pinfeathers; (5) Scuta; (6) Development of Scuta; (7) Claws; (8) Development of Claws; (9) The Bill; (10) Development of the Bill; (11) Combs and Wattles; (12) Spurs; (13) Toe-pads; (14) Spines of Mouth; (15) Summary; (16) Bibliography. The literature of each special subject is first passed in review, then the adult structure of the part is considered, and finally its mode of development. The morphology of the various appendages is treated in the general 'Summary.'

Many authors have assumed *à priori* that scuta are morphologically identical with the scales of reptiles,—a proceeding our author claims to be 'totally unscientific,' and pronounces the evidence against this view to be overwhelming. Neither are spurs "to be classed as modified scuta, as has been done by those who consider scuta and scales to be the same thing."

The modern view of feathers and hairs is that they are allied structures, though Gegenbauer speaks of them as divergent structures. "It is now known, however, that their early stages are the exact reverse of each other." For various reasons our author "considers feathers and hairs as *distinct* structures." Feathers and scuta are also said to be not homologous; the former originate as papillæ, the latter as folds, and so remain through life. "At no period .... is there the slightest resemblance in form"; while "all the peculiarities of the mucous layer separate the feather from the scale." The "fact that feathers grow upon scuta shows them to be distinct structures."

In closing the author says: "I am well aware that at the present time, when the tendency is to ascribe everything to one common origin, the above conclusions will be distasteful to many. Yet, when examples of the separate origin of like structures—analogous organs—are so abundant, it seems rash to consider a slight resemblance a proof of genetic relationship." The fact that "Amphibians, from which the higher groups have probably been derived, have no special epidermal appendages except perhaps claws," he considers a "strong argument against the identity of any of the avian dermal appendages with those of Reptiles or Mammals."—J. A. A.

Shufeldt on the Osteology of the Mountain Plover.*—This is another of Dr. Shufeldt's osteological monographs in which a member of the Plover family is treated with the customary fullness of detail characteristic of his previous memoirs on various species and groups of North American birds. The beautiful plate gives four views of the skull, two of the sternum, and views of the principal bones of the extremities, all of natural size. The paper is mainly descriptive, but comparisons are made between the species treated and a few allied forms, notably with *Charadrius pluvialis*, from which *Podasocys montanus* presents slight differences in certain bones of the skull.—J. A. A.

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*Observations upon the Osteology of *Podasocys montanus*. By R. W. Shufeldt, M. D., Captain Medical Corps U. S. Army [etc., etc.]. Journ. Anat. and Physiol., Vol. XVIII, pp. 86-102, pl. v.

Townsend on the Birds of Westmoreland County, Penn.*—"The species enumerated represent perhaps not more than two-thirds of the actual birds of Westmoreland County"; the list being based on rather limited opportunities for observation, and restricted to species 'identified with certainty.' The region embraces a portion of Chestnut Ridge, a range of the Alleghanies, extending through the southeastern part of the county; but this interesting portion of the field is very imperfectly reported upon. The list, numbering 136 species, is rather too sparingly annotated, especially in respect to the season of sojourn of many of the species; but we are led to hope that this may be but the forerunner of a fuller report.—J. A. A.

Bulletin of the Buffalo Naturalists' Field Club.—This, as its title indicates, is the organ of the Club whose name it bears. It is a large octavo publication, under the editorial management of D. S. Kellicott, Eugene E. Fish, and Mrs. Dr. Mary B. Moody. The paper, typography, and presswork are good, and the general appearance of the magazine is attractive. The first five numbers have been received, and are dated respectively January (double number), March, May, and September, 1883.

The publication is devoted to general natural history, and contains excellent articles upon various branches of zoölogy, botany, geology, and anthropology. The first paper in the first number is on the 'Nesting Habits of Birds,' by E. E. Fish, and contains much of interest to the oölogist. Mr. Fish calls attention to the fact that "Several species of birds that nest before the leaves are out, choose evergreens for their first brood, and if a second is raised it is generally in a deciduous bush, or tree." He adds: "Last spring the leaves were late in coming out, and of the first hundred nests that I examined, principally of Robins and Chipping-birds, ninety of them were in evergreens; a month later the number was nearly reversed." A few careless statements have crept in. For example, it is said that the Hummingbird covers the outside of its nest "with little patches of moss." The generic and specific names of the Red-headed Woodpecker are transposed.

In an article upon 'Field Club Work in Western New York,' Professor Charles Linden mentions, incidentally, the occurrence of the "Eider Duck, King Duck, Velvet Scoter, Old Wife, Trumpeter Swan, Snow

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* Notes on the Birds of Westmoreland County, Penna. By Charles H. Townsend. Proc. Acad. Nat. Sci. Philadelphia, 1883, pp. 59-68.

Goose, Curlews, White Owls, and Egrets," at the foot of Lake Erie and on Niagara River (p. 35).

Each number of the Bulletin has a department of 'Ornithological Notes,' which, with one exception, are from the pen of Mr. Fish. (For further reference to these see 'Minor Ornithological Publications' in this number of 'The Auk,' Nos. 595-607.)

Minor Ornithological Publications. — Volume III* of the 'Canadian Sportsman and Naturalist' contains the following (Nos. 523-543) :—

523. [*Birds of Western Ontario.*] By T. McIlwraith. *Ibid.*, III, pp. 198-200, 207.— Remarks on various species, with a comparison of the Hamilton and London lists. In all 260 species have been observed. (See also *anteà*, p. 85).

524. *Ornithological Notes.* By Ernest D. Wintle. *Ibid.*, III, p. 200. —A pair of White-bellied Swallows lay 13 eggs; Catbirds laying spotted eggs; "two species of Crow Blackbird in Canada," but the supposed occurrence of *Quiscalus major* is doubtless erroneous, as stated by Everett Smith (*Ibid.*, III, p. 207). (See below, No. 526.)

525. *The Wood-thrushes* (*Hylocichla*) *of New Brunswick.* By M. Chamberlain, St. John, N. B. *Ibid.*, III, pp. 201-203.—(Previously published in the 'Ornithologist and Oölogist,' VII, pp. 185-187.)

526. *Crow Blackbird.* By Everett Smith. *Ibid.*, III, p. 207.— The Boat-tailed Grackle not yet taken in Canada. (See *anteà*, No. 524.) On page 208 W. E. Saunders and W. W. Dunlop, under the same caption, write to the same effect.

527. *List of Birds ascertained to occur within ten miles from Point de Monts, Province of Quebec, Canada; based chiefly upon notes of Napoleon A. Comeau.* By C. Hart Merriam, M. D. *Ibid.*, III, pp. 208-212.—(From Bull. Nutt. Orn. Club, VII, Oct. 1882.)

528. *The Hudsonian Chickadee* (*Parus hudsonicus.*) By Montague Chamberlain. *Ibid.*, III, pp. 215-217.—Biography of the species.

529. *Birds of Western Ontario.* By John M. Morden. *Ibid.*, III, p. 216. —On *Lanius borealis*, *Regulus calendula*, and *Circus hudsonius*. Supposed young of former, taken near Hyde Park, doubtless were *L. ludovicianus*.

530. *Notes on the breeding of the Red-headed Duck at Lake St. Clair.* By John M. Morden. *Ibid.*, III, pp. 218, 219.

531. *Notes on the Natural History of Manitoba.* By W. G. A. Brodie. *Ibid.*, III, pp. 221-224.—Contains notes on about 80 species of birds.

532. *New Brunswick Notes. Loon.* (*Colymbus torquatus.*) By Montague Chamberlain. *Ibid.*, III, p. 231.

533. *The Wild or Passenger Pigeon. Ectopistes migratorius.* By J. M. LeMoine. *Ibid.*, III, p. 231.—Notes on its abundance prior to 1850, about Quebec and Montreal.

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* Volume III, as here indexed, is incomplete, the number for September, 1883, being the last that has reached us, or that we have heard of as published up to the present writing (March 1, 1884).

[Since writing the foregoing other numbers have come to hand. Respecting this publication see 'Notes and News' in this number of The Auk.]

534. *The Logger-head Shrike. Lanius ludovicianus, Linn.* Editorial. *Ibid.*, III, pp. 232-236, 243, 244.—Consists mainly 'Of Shrikes in a State of Nature,' from Coues's 'Birds of the Colorado Valley.'

535. *The Cow Bird. Molothrus ater* Bodd. By W. W. Dunlop. *Ibid.*, III, pp. 240, 241.—Its habits.

536. *Notes on the Red-shouldered Hawk.* By John A. Morden. *Ibid.*, III, pp. 241, 242.

537. *The Passenger Pigeon.* By W. H. Rintoul. *Ibid.*, III, pp. 242, 243.—Nesting of the species in great numbers near Altona, N. Y., in 1867 and 1868.

538. *The Ornithology of Western Ontario.* By John A. Morden and W. E. Saunders. *Ibid.*, p. 243.—Admits the erroneous character of a record of the breeding there of *Lanius borealis*, and notes the capture of *Machetes pugnax* and *Sterna cantiaca.*

539. *M. Dionne's "Les Oiseaux du Canada."* By Montague Chamberlain. *Ibid.*, III, pp. 248-251.—A critical review of the work.

540. *Ornithological Notes.* By John A Morden. *Ibid.*, III, pp. 254, 255.—On the nesting of *Helminthophaga chrysoptera* near Hyde Park. Ont.

541. *Insectivorous Grouse.* By C [=W. Cooper]. *Ibid.*, III, p. 261. —A specimen of the Ruffed Grouse (*Bonasa umbellus*) found to have "its crop full of caterpillars of *Notodonta concinna*, commonly known as the Red-humped apple tree caterpillar."

542. *Ornithologist's Convention.* Editorial. *Ibid.*, III, pp. 261, 262. —Brief account of the founding of the A. O. U.

543. *Notes on the Natural History of Labrador.* .By W. A. Stearns. *Ibid.*, III, pp. 266-268. (From the Proc. U. S. Nat. Mus. Vol. VI, No. 8.)

The 'American Field' (Volumes XVII-XX, Jan. 1882-Jan. 1884), contains, beside articles reprinted from the 'American Naturalist' and other sources, the following notes and articles (Nos. 544-569) :—

544. *American Pipit.—Tit-Lark.—(Authus ludovicianus.)* By W. A. Stearns. *American Field*, XVII, No. 2, p. 35, Jan. 7, 1882.—Notice of its habits as observed by the writer in Labrador.

545. *The Snowy Owl [at Algona. Iowa].* By J. G. Smith. *Ibid.*, XVII. No, 3, p. 52.

546. *Young Quails in March [at Mechanicsburg, Ohio].* By S. M. Harper. *Ibid.*, XVII, No. 3, p. 52.

547. *Migratory Hawks.* By Polk Miller. *Ibid.*, XVII, No. 3, p. 52. —"A flock of from 250 to 500 hawks" seen Sept. 18. 1881, near White Sulphur Springs, Va.

548. *The Migratory Quails.* By Everett Smith. *Ibid.*, XVII. No. 8, p. 132, Feb. 18, 1882.—On their introduction into Maine.

549. *Those Wicked Pugnacious Rogues of Sparrows.* By Philip Vibert. *Ibid.*, XVII. No. 12, p. 187, March 18, 1882. (Marked "To be continued.")

550. *A Request.* By W. W. Cooke. *Ibid.*, XVIII, No. 22, p. 360, Nov. 25, 1882.—A call upon ornithologists to coöperate in collecting data on the migration, nesting, etc., of the birds of the Mississippi Valley.

551. *Effects of Reversion to the Wild State in our Domestic Animals.* By Hon. J. D. Caton, LL. D. *Ibid.*, No. 24, pp. 390, 391, Dec. 9, 1882.—Includes notices of Domestic Turkeys occuring in a wild state in the Hawaiian Islands.

552. *Observations on the Development of Special Senses.* By Hon. John Dean Caton, LL. D. *Ibid.*, No. 25, p. 411, Dec. 16, 1882.—Includes references to the sense of smell in Ducks, Geese, the Wild Turkey, and Turkey Buzzard. (From 'Journ. of Comp. Med. and Surgery.')

553. *Do Birds Possess the Sense of Smelling.* By G. D. Alexander. *Ibid.*, XIX, No. 4, p. 72, Jan. 27, 1883.

554. *Wilson's Snipe.* By J. H. L. (Buffalo, N. Y.). *Ibid.*, XIX, No. 6. pp. 112, 113. Feb. 10, 1883.—On the habits of *Gallinago wilsoni.*

555. *The Sense of Smell in Birds.* By Walter S. Heffron. *Ibid.*, XIX, No. 6, p. 113.—Mainly extracts from Sir Samuel Baker's 'The Nile Tributaries of Abyssinia.'

556. *The Sense of Smell in Birds.* By S. M. Harper. *Ibid.*, XIX, No. 10, p. 174, March 10, 1883.—Relates mainly to the Turkey Buzzard.

557. *The Sense of Smell in Birds.* By W. J. D. (Cimarron, Kan.) *Ibid.*, XIX, No. 11, p. 195, March 17, 1883.—Relates to the Wild Turkey, which the writer believes can smell.

558. *The Hills and Streams of Southern California.* By T. S. Van Dyke.... Chapter X. *The Black Brant. Ibid.*, XIX, No. 13, March 31, 1883, pp. 226. 227.—Its habits and abundance in the bays south of San Diego.

559. *Geographical Variation in Size in Birds.* By Everett Smith. *Ibid.*, XIX, No. 18. p. 349.—Cites as instances of *decrease* in size *northward* various species of Loons, Ducks, and the Herring Gull. States that his own observations on not only birds, but animals and fishes, have convinced him that there is one universal rule of variation, which has been given by J. A. Allen, as follows: "The maximum physical development of the individual is attained where the conditions of environment are most favorable to the life of the species."

560. *Unnatural Attachments among Animals.* By John Dean Caton, LL.D. *Ibid.*, XIX, No. 20, May 19, 1883, pp. 396, 397.—Sand-hill Cranes and Hawaiian Geese in confinement forming an attachment for pigs.

561. *The Black Brant* [*Bernicla nigricans*]. By W. A. P. *Ibid.*, XIX, No. 21, May 26, 1883, p. 419.—Its abundance on the coast of Alaska.

562. *The Goatsuckers.* (*Caprimulgidæ.*). By Col. A. G. Brackett, U. S. Army. *Ibid.*, XIX, No. 23, p. 469. June 9. 1883.

563. *The Wood Duck*—(*Aix sponsa*). By Byrne. *Ibid.*, XX, No. 1, July 7, 1883, p. 9.— Original and interesting account of its habits.

564. *Our Goatsuckers.* By Kit Killbird (pseudon.). *Ibid.*, XX, No. 7. Aug. 18, 1883, p. 153.—In correction of certain misstatements by Audubon and by Col. Brackett.

565. *Roseau Lake.—The Breeding Grounds of the Geese and Ducks.*

By Charles Hallock. *Ibid.*, XX, No. 10, Sept. 8, 1883, pp. 220, 221.—Canada Geese, Red-heads, and Mallards "breed there by myriads." Their breeding haunts described.

566. *Our Goatsuckers and Opossums.* By R. *Ibid.*, No. 11, Sept. 15, 1883, p. 249.—Defence of Audubon against "Kit Killbird," respecting the breeding of the Night Hawk in Louisiana.

567. *The Length of Time a Quail sits.* By R. T. C. *Ibid.*, XX, No. 13, p. 298.—Found to be twenty-one days.

568. *The Power of Flight.* By Charles Codman. *Ibid.*, XX, No. 17, p. 394.—"Electricity" believed "to be the sustaining power by which a bird flies"!

569. *Bird Migration.* By W. W. Cook and Otto Widmann. *Ibid.*, XX, Nos. 22, 23, 24, 25, 26, pp. 513, 514, 536, 537, 560, 561, 584, 585, 610, 611. (Continued in Vol. XXI.).—A detailed record of observations made at Jefferson, Wisc., and St. Louis, Mo., begun Jan. 1, 1883, and continued through the spring migration.

'Science,' Vols. I and II, 1883, contains the following:—

570. *Cleaning Birds.* By J. Amory Jeffries. *Science*, Vol. I, No. 1, p. 11.

571. *Domestic ducks that fly abroad like pigeons.* By F. H. Storer. *Ibid.*, No. 2, p. 67.

572. *A caterpillar-eating hen-hawk* [*Buteo pennsylvanicus*]. By F. H. Storer. *Ibid.*, No. 6, p. 168.

573. *Domestic ducks that fly abroad like pigeons.* By Joseph LeConte. *Ibid.*, No. 9, p. 249.

574. *Intelligence of the crow.* By S. Kneeland. *Ibid.*, No. 13, p. 359. — On Crows carrying stones into the air in their claws and dropping them upon intruders.

575. *The least Bittern in Newfoundland.* By C. Hart Merriam, M. D. *Ibid.*, No. 16, p. 457.

576. *Robins, sparrows and earth-worms.* By. F. H. Storer. *Ibid.*, No. 16, pp. 457, 458.—English Sparrows stealing worms from Robins.

577. *Intelligence of the crow.* By Jos. M. Wade. *Ibid.*, No. 16, p. 458.—Tame Crows and Ravens observed to use their beaks and not their claws in transporting objects.

578. *Intelligence of the crow.* By J. A. Allen. *Ibid.*, No. 18, p. 513.

579. *Precocity in a chicken.* By Redducs. *Ibid.*, No. 20, p. 574.

580. *Intelligence of the crow.* By C. C. Abbott. *Ibid.*, No. 20, p. 576.—Carrying mussels into the air in their beaks and dropping them on stones.

581. *Impregnation in the turkey.* By Edward M. Shepard. *Ibid.*, No. 20, p. 576.—Young hatched from eggs laid in confinement without any connection of the female with a Turkey-cock.

581 *bis.* *Impregnation in the turkey.* By W. Mann. *Ibid.*, Vol. II, No. 25, p. 105.—One connection with a male bird found to be sufficient to impregnate a whole clutch of eggs.

582. [*Absence of*] *Swallows in Boston.* By Carl Reddots. *Ibid.*, No. 26, p. 135.

583. *Change of bird's notes.* By F. O. Jacobs. *Ibid.*, No. 27, p. 167.—Cardinal Bird imitating the notes of the Whippoorwill.

584. *Trick of the English sparrow.* By F. H. Herrick. *Ibid.*, No. 28, p. 201.—Ousting Eaves-Swallows from their nests and appropriating them.

585. *Occurrence of the swallow-tailed hawk in New Jersey.* By C. C. Abbott. *Ibid.*, No. 29, p. 222.

586. *A reckless flier.* By F. H. Herrick. *Ibid.*, No. 29, p. 222.—A Chimney Swift impales itself on the spear point of a lightning-rod above a chimney.

587. *Swallows in Boston.* By Carl Reddots and Leander Wetherell. *Ibid.*, No. 29, p. 222.—First seen in 1883 about August 4.

588. *Prehensile feet of the crow.* By S. Kneeland. *Ibid.*. No. 30, pp. 265, 266.—Instances adduced of Crows using their feet, as well as their bills, in seizing and carrying objects.

589. [*Breeding of the*] *Prairie Warbler in New Hampshire.* By F. H. Herrick. *Ibid.*, No. 31, p. 309.

590. *Do humming-birds fly backward?* By Bradford Torrey. *Ibid.*, No. 34, p. 436.—Answered affirmatively.

591. *Sternal processes in Gallinae.* By J. Amory Jeffries. *Ibid.*, No. 40, p. 622.

592. *Remarks upon the osteology of phalacrocorax bicristatus.* By R. W. Shufeldt. *Ibid.*. No. 41, pp. 640-643, figg. 1-3.

593. *Osteology of the cormorant.* By J. Amory Jeffries. *Ibid.*, No. 44, p. 739.—A criticism on some points in the article last cited.

594. *Osteology of the cormorant.* By R. W. Shufeldt. *Ibid.*, No. 47, p. 822.—A brief reply to the last.

595. *Nesting Habits of Birds.* By E. E. Fish. *Bulletin of the Buffalo Naturalists' Field Club*, I, 1883, pp. 13-17.—Interesting notes on various species.

596. *Generosity of Birds.* By E. E. F[ish]. *Ibid.*, p. 45.

597. *Birds Making Mistakes.* By E. E. F[ish]. *Ibid.*, pp. 45, 46.

598. *Cow Bunting.* By E. E. F[ish]. *Ibid.*, p. 46.—A pair of Song Sparrows observed feeding *two* nestling Cow Buntings.

599. [*English Sparrow playing 'Possum*]. By E. E. Fish. *Ibid.*, No. 3, p. 70.

600. [*Small Complements of Eggs of early nesting Birds in Spring of 1883.*] By E. E. F[ish]. *Ibid.*, pp. 70-71.

601. [*Robins Destroying their own Young during Severe Weather.*] By E. E. F[ish]. *Ibid.*, p. 71.

602. *Early Nesting of the Shore Lark.* By E. E. F[ish]. *Ibid.*, p. 71.

603. [*Early Appearance of the Robin.*] By D. S. K[ellicott]. *Ibid.*, p. 71.

604. [*The Red-headed Woodpecker* (*Melanerpes erythrocephalus*) *a Robber of other Bird's Nests.*] By E. E. F[ish]. *Ibid.*, No. 4, p. 92.

605. *Yellow-throated Warbler.* By E. E. F[ish]. *Ibid.*, p. 93.

606. *Habits of the Scarlet Tanager.* By E. E. F[ish]. *Ibid.*, No. 5, pp. 118-119.

607. *Sagacity of the Chipping Bird.* By E. E. Fish. *Ibid.*, p. 119.

608. *Der Walddrossel.* (*Turdus mustelinus Gmelin.— Wood Thrush.*) Von H. Nehrling, Sonntagsblatt der N. Y. Staats Zeitung, 20 Jan. 1884. —Biography of the species.

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GENERAL NOTES.

A singular specimen of the Black-and-white Creeper.—The Essex County Collection (mounted) of the Peabody Academy of Science at Salem, Mass., contains a pecular Black-and-white Creeper which Mr. Robinson, Curator of the Academy, has kindly allowed me to examine and describe.

According to the accompanying data the bird is a male, taken at about the beginning of the breeding season (Ipswich, Mass., May 15, 1883, by E. C. Greenwood). It differs from the normal condition of the adult male as follows: The forehead, crown, occiput, and nape are dull black, with a rectangular spot of brownish white on the nape, but with no trace of the usual median stripe on the top of the head, even at the roots of the feathers. The opposite sides of the head are *differently marked.* On the left side there is a distinct superciliary stripe of brownish or ochraceous-ash, which begins above the anterior corner of the eye and is continued backward nearly to the occiput, merging posteriorly into a tract of similar color on the auriculars, but separated from it immediately behind the eye by a conspicuous post-ocular spot of black.

On the right side the black descends uninterruptedly to the auriculars, and there is no apparent trace of a superciliary stripe, although the right eye, like the left, is encircled by a narrow whitish ring. Both lores are black, with a slight tipping of brownish on some of the feathers, and both sides of the head and neck, below the line of the eye, are uniform brownish-ochraceous, with a few obscure dusky shaft-streaks on the auriculars.

The exposed surface of the throat, jugulum, and breast is plain brownish-ash, without decided markings of any kind, save well back on the sides of the breast, where there are a few black streaks. Upon disarranging the plumage, however, concealed black is everywhere revealed, each feather having a sub-terminal black bar extending squarely across both webs and separating the light brownish-ashy space at the tip from the somewhat broader, pure ashy one at the bases. The back is colored and marked like that of the autumnal female of *Mniotilta;* the flanks and crissum similarly washed with fulvous. The wings and tail offer nothing peculiar, although they have rather less than the usual amount of white.

In a more general way, this bird may be characterized as a Black-and-white Creeper with the crown of a Black-poll Warbler and a throat and breast which recall (although they will not actually bear comparison with) those of the Connecticut Warbler in autumn. Nearly every one who has seen the specimen has been inclined, at first, to consider it a hybrid, but although the *Mniotilta* element is obvious enough, it is difficult to supply the other parent. Assuming it to have been *Dendrœca striata*, the obliteration of the median crown-stripe of *Mniotilta* is accounted for, but a cross with this — or indeed with any other *black-crowned* Warbler of my acquaintance, would hardly give the pecular coloration of the breast and throat. Moreover, the generic characters of *Mniotilta* — especially its only really important ones, viz., the peculiar shape and proportion of bill and feet — are in no wise modified as would be certainly the case were the bird an offspring of a cross with a species of another genus. In view of these considerations it is most natural to assume that it is an aberrant — perhaps melanistic — example of the common Black-and-white Creeper. The case finds a fairly close parallel in that of the notorious *Spiza townsendi*, which can be scarcely maintained as a bona-fide species, while it is equally difficult to show successfully that it had a hybrid origin. The occurrence of such strangely abnormal specimens should be a warning to those who would impugn certain 'lost' species which, it has been claimed, have existed only in the imagination of their describers. — WILLIAM BREWSTER, *Cambridge, Mass.*

Breeding of the Mockingbird near Boston, Mass.—On August 15, 1883, my brother, Mr. W. J. Townsend, shot two nearly full-grown Mockingbirds (*Mimus polyglottus*) at Arlington, Mass. He found them in a small thicket near a meadow, in company with an old one and two other young ones, which, however, he was unable to secure. The two he obtained were young birds, quite well feathered, their wings fully grown, but their tails decidedly shorter than in the adult. Later I made frequent excursions to the same and neighboring places, but did not succeed in discovering the rest of the family. On inquiry I learned that a farmer of the place, who had lived down in the South and was familiar with the Mockingbird, had seen one several times during the early part of the summer near his house, and heard him sing.

There seems, therefore, no reason to doubt that a pair of these birds bred at Arlington. Mr. William Brewster tells me there are no records of the breeding of the Mockingbird in Eastern Massachusetts, but the fact of their breeding several times near Springfield, Mass., is well known.— CHARLES W. TOWNSEND, *Boston, Mass.*

Dendrœca coronata in Southern New Hampshire in Summer.—On June 25, 1883, I shot an adult male of this bird in Hollis, N. H. It was in company with several broods of *D. virens*, etc. — WILLIAM H. FOX, *Washington, D. C.*

Nest and Habits of the Connecticut Warbler (*Oporornis agilis*).— A few miles south of Carberry, Manitoba, is a large spruce bush, and in the middle of it is a wide tamarack swamp. This latter is a gray mossy bog, luxuriant only with pitcher plants and Droseræ. At regular distances, as though planted by the hand of man, grow the slim straight tamaracks, grizzled with moss, but not dense, nor at all crowded; their light leafage casts no shade. They always look as though they were just about to end, though the swamp really continues for miles—the same dank, gray waste.

At times the Great-crested Flycatcher was heard uttering his whistling croak. Besides this the only noticeable sound was the clear song of a Warbler. It may be suggested by the syllables, *beecher-beecher-beecher-beecher-beecher-beecher*. It is like the song of the Golden-crowned Thrush, but differs in being in the same pitch throughout, instead of beginning in a whisper and increasing the emphasis and strength with each pair of notes to the last. Guided by the sound, I found the bird high in the tamaracks. It was not shy like the Wood Warblers, so it was easily secured. It proved to be a male Connecticut Warbler.

As I went on, a small bird suddenly sprang from one of the grave-like moss-mounds. It seemed distressed, and ran along with its wings held up, like a Plover just alighting. On seeing that I would not be decoyed away, it ran around me in the same attitude. Recognizing that it was the Connecticut Warbler, I took it, and then sought out the nest in the moss. It was entirely composed of dry grass, and sunken level with the surface. The eggs, four in number, measured .75 × .56 in. Before being blown they were of a delicate creamy white, with a few spots of lilac-purple, brown, and black, inclined to form a ring at the large end.

This nest was sent, with the parent birds, to the Smithsonian Institution; the indentification was confirmed, and the nest deposited in the Museum. — ERNEST E. T. SETON, *Carberry, Manitoba.*

The Loggerhead Shrike (*Lanius ludovicianus*).—Dr. Elliot Coues has described so minutely the habits of the Laniidæ in his account of 'Shrikes in a State of Nature' (Birds of the Colorado Valley, Part I, 1878), that very little is left in the history of the Shrikes for other observers to record. However, an unusual incident (to me) in the nidification of *Lanius ludovicianus* came under my observation last spring, which I trust will be of interest enough to ornithologists to warrant a place in 'The Auk.' On May 19 I discovered the nest of this Shrike upon the central fork of a thorn tree, and almost within reach from the ground. As the nest contained only one egg, I did not then take it, but returned seven days later to find that two more eggs had been laid. As I wanted a specimen, I shot the bird as it arose from the nest, and it proved on dissection to be a female. I tried in vain to obtain the male, but he kept beyond range, appearing much excited and uttering constantly a peculiar note, similar to the sound produced by blowing through a pea-whistle. Six days later, I found a new and completed nest on the tree next to that which had held the one I took, and as I stood looking at it, a pair of Loggerhead Shrikes flew close up to it. While watching them I wondered whether the male of the first nest could have procured another mate and built a nest in such a short time. Of course I could not solve this point, as I had nothing to identify the bird by; but I have since been informed by Mr. Chamberlain of St. John, N. B., that he had witnessed something similar, and was enabled to identify his bird by its having *only one eye.* I therefore think it fair to presume that the male of the first nest I obtained did arrange his second matrimonial venture within the six days. On discovering these nests I expected to find the 'Shrike's larder,' but after examining all of the thorn trees and bushes in the vicinity, I found not a single bird or insect impaled on any of them. — ERNEST D. WINTLE, *Montreal.*

Cowbirds in a Black-and-white Creeper's Nest.—In the spring of 1881 a friend reported finding a bird's nest with two sorts of eggs in it. Suspecting the solution of this mystery, I examined the nest some days later and found a couple of young Cowbirds, with gaping mouths but fat and plump, while entirely underneath them was an addled Cowbird's egg and two young Black-and-white Creepers, the latter nearly dead from starvation or suffocation — or both.

In this connection I might record taking Cowbird's eggs frequently from nests of the Indigo Bunting, and that invariably the Buntings have deserted their nest after these eggs were removed. —JOHN A. MORDEN, *Hyde Park, Ontario.*

The Great Horned Owl (*Bubo virginianus*) in Confinement.—There has been considerable written upon this subject, and yet my present pet has displayed several characteristics which I have not observed mentioned in any of the records I have access to, and which are rather interesting.

I took her (I am strongly impressed with the belief that the bird is a female) from the nest on May 21, 1882, and judged from the plumage that she was then some twenty days old. She and her nest mate were covered with a grayish down, and when I pushed them over the edge of the nest —a rough shapeless affair on the exterior, though comfortably lined with feathers, and built in the crotch of a birch tree some eighty feet from the ground—they made an awkward attempt at flying, but reached the ground all right. They snapped their bills as I picked them up, but allowed themselves to be carried off without making further remonstrance.

The parents did not interfere, though just before I climbed the tree one of them flew on to the edge of the nest and uttered a sharp and shrill cry, with a vibration similar to that produced by a 'pea' whistle (the same cry as my pet gives voice to when annoyed or angry), and then flew off. The nest, by the way, was in a rather odd situation, being on the outskirts of a heronry of the Great Blue Heron, and not a hundred feet from where a pair of Fish Hawks were putting in habitable condition a nest which appeared to have been used for many years.

I have given my pet the run of a large room, and had ample opportunity to watch her growth and habits. At four months the horns, or ear-tufts, began to be noticeable, and in six months the bird was in full feather. In April, 1883, when about a year old, she made two attempts at nest-building, but finally relinquished the idea and shortly after began to shed her feathers.

From my experience with this bird I cannot fairly say that I consider the species untameable, though I confess I have not made much headway in reducing her to submission; yet she will allow me to stroke her head, and makes very little fuss when I enter her apartment alone, in comparison to what she does when a stranger approaches her. But she is undoubtedly fierce, and thoroughly appreciating the value of her equipment of muscle and claw, and considering any infringement of vested rights a *casus belli*, soon teaches a meddlesome intruder that no liberties whatever will be tolerated.

At times she is morose and sullen, but not unfrequently assumes a more playful air, when she seemingly enjoys putting herself into grotesque attitudes, varied with hooting, and another sound which so closely resembles the creaking of the door-hinge of her apartment that I am inclined to believe she has imitated it. Once, while in such a mood, I introduced a full grown cock into the room, when lo! the whole demeanor of my pet changed *instanter*. The horns were thrown back flat against the crown, the eyes glared fiercely, and the stately bird of wisdom, and the humorous vendor of quaint sounds, gave place to the savage bird of prey. As she stood for a moment glaring down upon her victim, moving her head from side to side, as if calculating the distance and the best method of attack, she looked like a veritable fiend. Her first swoop was dodged by the cock, and she then made an attack on the ground. Approaching the now terrified bully of the barn-yard, quick as a flash one claw was thrust out, clutching his neck; throwing him over on his back she quietly held him there until all motion had ceased, which was much sooner than if his head had been chopped off.

Nothing in the shape of fresh fish or flesh is neglected by the Owl when hungry, though her choice is for wild birds, and she will take small animals in preference to beef or mutton. A rat or squirrel is always swallowed whole, and about every second or third day the fur and bones are ejected, rolled into a hard pellet as large as a Grouse's egg. Just before ejecting these pellets the bird's appearance is very distressing. The first time I observed it I thought she must be ill, but as soon as the pellet is out she immediately recovers. If any food remains after her hunger is satisfied, it is carefully hidden away, and if I approach the spot where it has been laid the Owl attacks me most fiercely; flying at my feet, and hitting at them with her wings and claws.

She is very fond of bathing, and during the warm weather will bathe regularly once a day; getting into the large basin I have provided and washing very much after the manner of a Canary. In winter she takes a bath about every three or four days.

I have proven that her hearing is remarkably acute, and that she can see distinctly in the day time, when out of the glare of the sun.

The 'hoot' is made with the bill firmly closed; the air is forced into the mouth and upper part of the throat, the latter being puffed out to the size of a large orange.—JAMES W. BANKS, *St. John, N. B.*

Ducks transporting Fresh-water Clams.—In a conversation with Mr. J. W. Freese of Cambridge in relation to birds transporting bodies in their claws, my attention was called to an interesting observation made by Mr. Eugene Barry of Lynn. As the observation seems an important one, touching a possible cause of the distribution of these mollusks, I have asked Mr. Barry, through the kindness of Mr. Freese, to write out his experience, and from the letter which he has kindly sent in reply the following abstract is made.

While gunning on the Sebec River, Maine, he noticed among a flock of Ducks on the wing, one bird which flew more heavily than the others. This he shot, and on picking it up found a common 'fresh-water clam attached to the penultimate joint of the 'middle toe.' He cut off the leg with the clam adhering to it, and noticed that the articulation to which the mollusk had fastened itself was chafed as if the clam had clung to it for sometime. After a day or more the leg of the Duck and the clam, which had not yet released its hold, were put into a basin of water, when the mollusk opened its shell and released the imprisoned foot. Mr. Barry afterwards learned from boys of the neighborhood that the same Duck had been noticed flying about on several mornings and evenings previous to the day upon which he shot it. The clam was probably clinging to the Duck's foot at that time, and had not released its grip even when the Duck lit upon the water, as it must frequently have done in the intervals of time between observation.—J. WALTER FEWKES, *Cambridge, Mass.*

The Lesser Glaucous-winged Gull in New York.—On January 28, 1884, Mr. Edward Root, of Green Island, N. Y., brought to me a Gull, fresh in the flesh, and said he shot it the day before as it sat on the ice by a rift of open water in the Mohawk River, near its junction with the Hudson — at about latitude 42° 46′. The weather had been very cold for about a month. The bird was thin in flesh, weighed only 21 ounces, and had in its stomach merely a few grains of gravel.

When I received the bird the color of its irides was pale grayish brown; of its bill, light watery yellow, with a greenish shade near the base, and a small red spot in a little cloud of dusky on each side of the lower mandible above the angle. The legs and feet were flesh color.

Its measurements were: Length, 23.00 inches; extent, 51.75; wing, 15. 75; bill, 1.60; from nostril, .80; from gape, 2.60; height at nostril, .60; at angle, .63; tarsus, 2.20; middle toe and claw, 2.25; tail, 7.00; wings beyond tail, 1.50; diameter of iris, .36.

The bird was a female, and its ovary showed that it had passed through at least one breeding season, and was not very old. In size, plumage, coloration, and wing-markings it seemed similar to the Gulls recently described by Mr. William Brewster (Bull. Nutt. Orn. Club, Vol. VIII, pp. 216-219); and upon submitting the mounted bird to him for examination he informed me that it is what he has named *Larus kumlieni*.—AUSTIN F. PARK, *Troy, N. Y.*

[The specimen above referred to is most nearly like Mr. Welch's, among the four which I have previously seen. The blue of the mantle is similarly deep, and the slate-gray of the primaries perhaps even more extended, the first three feathers having their outer webs almost wholly dark, except terminally, where the characteristic white apical spots, although present, are unusually restricted. In these respects the bird extends the series of known specimens (five in number) a little further towards *glaucescens* proper, thus increasing the probability that *kumlieni* may prove eventually to be merely a geographical race of that species. Nevertheless this is still only a probability, for a wide gap remains to be bridged before the two can be united as conspecies. I may add that Mr. Park's specimen has an unusually short, stout bill, which is further peculiar in having the superior outline of the maxilla almost perfectly straight from the base to the angle.—WILLIAM BREWSTER.]

The Occipital Style of the Cormorant.—This style, which in skeletons is found articulated with the occiput, is in reality the ossified raphe of the temporal muscles (Owen, Anat., II, 93). Finding upon dissection of a young Cormorant the raphe but slightly ossified, I would make the following suggestion of its evolution. In some birds, especially those with small crania, the temporal muscles meet in the median line over the occiput. In the Cormorant we find this carried to an extreme, the muscles extending back for about an inch over the nape of the neck. This increase in the size, and consequently in the power of the temporal muscles, is evidently of great advantage to a bird of the Cormorant's habits. But were the muscles not held in place, they would slide over the occiput with the first contraction. This could have been avoided by the muscles being attached to the vertebræ, or to a theoretical ligamentum nuchæ. But such an origin would have bound the head in extension, a condition incompatable with the life of the bird. We therefore find the only other possible contrivance, a solid guy, extending from the cranium. This guy has been made by the conversion of the fibrous raphe into bone. In young Cormorants the raphe, though dense, is not ossified. Were the guy represented by a spinous outgrowth from the skull, motion of the head upon the neck would be seriously impaired, as the spine is fastened down to the neck by fascia and the skin. Therefore we find a ball and socket joint developed between the spine and the cranium.

This beautiful adaptation of limited material to a given end points strongly to a Lamarkian mode of development; its development by gradual selection is hard to understand. When we consider that demand upon a muscle leads to its increased size; that bone is frequently formed in tendons—and such the raphe is—to meet mechanical needs; that bursæ form in connective tissue at points of friction, we see how all may be the direct result of demand upon the temporal muscles. Once given the structure, natural selection comes into play in the increase of Cormorants; but first cause and the means by which the results of a first cause are maintained should never be confounded.

Finally, this bone, as the result of ossification of a common tendon of a pair of muscles, is an anatomical rarity.—J. Amory Jeffries, *Boston, Mass.*

CORRESPONDENCE.

[*Correspondents are requested to write briefly and to the point. No attention will be paid to anonymous communications.*]

Trinomials Are Necessary.

To the Editors of The Auk:—

Sirs: Referring to Mr. Chamberlain's timely query, 'Are Trinomials Necessary?' in the January number of this periodical, I beg to say a word by way of supplementing Mr. Allen's excellent remarks upon this interesting question. He has covered the ground so well that, in heartily endorsing the tenor and substance of all he has said, I only wish to add a formulation of the principle upon which 'the American school' acts in applying this method of nomenclature. The following paragraph is taken from a plate-proof of my new 'Key,' p. 76, long since stereotyped, but not yet published:—

"No infallible rule can be laid down for determining what shall be held to be a species, what a conspecies, subspecies, or variety. It is a matter of tact and experience, like the appreciation of the value of any other group in zoölogy. There is, however, a convention upon the subject, which the present workers in ornithology in this country find available; at any rate, we have no better rule to go by. We treat as 'specific' any form, however little different from the next, that we do not know or believe to intergrade with that next one; between which and the next one no intermediate equivocal specimens are forthcoming, and none, consequently, are supposed to exist. This is to imply that the differentiation is accomplished, the links are lost, and the characters actually become 'specific.' We treat as 'varietal' of each other any forms, however different in their extreme manifestation, which we know to intergrade, having the intermediate specimens before us, or which we believe with any good reason do intergrade. If the links still exist, the differentiation is still incomplete, and the characters are not specific, but only varietal, in the literal sense of these terms. In the latter case, the oldest name is retained as the specific one, and to it is appended the varietal designation: as, *Turdus migratorius propinquus*."

While it is always safer to prophesy after than before the event, I nevertheless venture to predict that the nomenclature of the near future will fully recognize some such principle as this, and apply it by means of trinomial nomenclature, in Europe as well as in America, and especially in Great Britain. In my judgment, the interests of the B. O. U. and of the A. O. U. would both be subserved by an alliance in this particular.

Very truly yours,

Washington, February 20, 1884. ELLIOTT COUES.

Are Trinomials Necessary?

TO THE EDITORS OF THE AUK:—

Sirs: I feel sure that every amateur who has read the reply to my letter in the January number of this magazine will feel as sincerely thankful for it as I certainly do — grateful for the information conveyed, and pleased to have the proof that such questions as I have asked will receive kind and courteous consideration in the pages of 'The Auk.'

Candor compels me to add, however, that the reply has not, in some points at least, proved entirely convincing, and I return to the subject for the purpose of gaining further light.

It is to be hoped that the more advanced students will not grow impatient over the persistency and, perhaps to them, apparent stupidity of these unbelievers of the 'amateur element.' Those who have passed from unbelief to a firm conviction that trinomials are useful and necessary should remember that they gained such happy consummation only through a gradual process of reasoning, and should not expect those to whom the subject is comparatively new to reach the same plane of thought at a single bound. For every man, worthy the name of student, will ask a reason for each successive step, and not take them simply at some other man's *dictum* — the day for that has passed.

That which is very generally considered antagonism to trinomialism is not, so far as the American amateur ornithologists are concerned, an opposition to the use of three terms to distinguish varieties from species, but an unbelief in the necessity of recognizing varieties by *any* distinctive appellation. Prove to us that varieties are a necessity, that trinomials are an advance toward 'exactness of expression,' without an overbalancing loss in complication and increased difficulty in study, and we will accept the trinomial pure and simple — without any connecting term — as an improvement upon any previous method of denoting these forms. We harbor no 'Dr. Dry-as-dust' 'craze' for a purely binomial nomenclature, but we do protest against the propagation of any system which unnecessarily creates obstacles to the study of the science, instead of simplifying it; we do ask that our leaders shall not take a step backward and force upon us something which is barely more than a change, and not only no improvement, but a palpable injury; that we be not dragged into a 'craze' for trinomialism by following the lead of an 'American school,' in whose splended abilities and brilliant performances every American amateur feels a glowing pride.

But while stating all this I must not allow it to be thought that the unbelievers are blind to the possibility of their unbelief being based upon misunderstanding, or perhaps ignorance; they fully realize that this may be the case — hence these questions.

Our stumbling-blocks may be stated in a few words. We conceive that the recognition of varieties tends to create confusion in classification and nomenclature, and increases the difficulty of identifying specimens. We do not see that by it any advance toward exactness has been secured; and it appears to us that to gain this advantage, and to be consistent, and carry to its legitimate end the argument for their adoption, *every* variation from a given type must receive a distinctive name: necessitating not alone the recognition of varieties of species, but also of varieties of varieties almost without limit.

This idea is, of course, too absurd to deserve a moment's earnest thought; and, considering that zoölogical classification is to some degree artificial, and that only an approximation to complete exactness can be reached, we are forced to the conclusion that, on the whole, a better result would be accomplished if those forms which are sufficiently differentiated to demand a distinctive name were classed as species instead of varieties — that when a Song Sparrow ceases to be a Song Sparrow it were called something else — and a pure and simple binomial nomenclature were thus retained, the less important variations being understood through the medium of a general law.

One point more. I have seen it stated (I cannot at this moment remember just where), that the fact that all recent American writers on ornithology use trinomials is evidence that they endorse the system which these trinomials represent. Now, as a matter of fact, this is not true; but even if it were true, the statement could not be made fairly upon such evidence. It is well known that the prevailing systems of nomenclature have been adopted by the large majority of American writers simply because they *were* the prevailing systems, for convenience's sake. And if some bolder and more independent spirit were to rebel against following a prevailing idea with which he did not agree, and attempt to originate a system for himself, he would very probably be 'set upon' as a conceited, self-opinionated person, and have hurled at his heretical head some such crushing sarcasm as 'he has become almost an ornithologist.'

The 'amateur element' appreciate the desirability of having all classes of American ornithological students work in harmony and in concert, and it is for this reason that the unbelievers in trinomials desire to get rid of their unbelief.

Respectfully yours,

St. John, N. B. MONTAGUE CHAMBERLAIN.

[We are glad to see that the objection to trimonials is not, as we in writing our former reply supposed, that they are in themselves an objectionable innovation in nomenclature—as opposed to strict adherence to binomialism—but that their acceptance depends upon proof that it is necessary to recognize varieties, or incipient species, at all in nomenclature. We return to the subject, however, with a feeling that the doubters may not be open to conviction by such evidence as can be readily put before them on paper; but that their conversion would be easy could we lay before them series of specimens illustrating the forms to which trimonials are applied, showing them how different many of them are in their extreme phases of divergence, and at the same time how completely they inosculate.

As stated in our former reply, the best, and in fact most, naturalists the world over believe it necessary to, and in practice do, recognize varieties as a means of giving a correct and precise expression to the status and relationship of a grade of forms differentiated to a degree that renders their recognition in nomenclature necessary if we would properly formulate the facts of biology, although such forms are known to intergrade and cannot, therefore, properly rank as species. Furthermore, the recognition of varieties is much more prevalent now than formerly, in consequence of better knowledge of the relationships and real status of such forms, resulting from more favorable opportunities for study and the rapid accumulation of material. Although Mr. Chamberlain does not even imply that the 'unbelievers' of the 'amateur element' think they have a better knowledge of what is required in the case than the specialists—the experts in the subject, who are not only trained naturalists, but who have had in hand an amount of material, and opportunities for judgment in such questions, of which some at least of the 'unbelievers' have little conception—yet we can hardly believe it unkind on our part to ask the 'unbelievers' to answer for themselves the questions, whether expert testimony, in matters of science at large, or in human affairs in general, is entitled to any more weight than lay opinion; or whether if they had had the same opportunities for study, and the same amount of material for investigation, they believe that they would have reached other than the same conclusions, or would have taken any different course of action.

As to varieties and trimonials making nomenclature more complicated, and the study of ornithology more difficult, is not the difficulty complained of necessarily inherent in the subject, and dependent rather on the degree of knowledge the student aspires to acquire, than on any needless encumbrances thrown in the way by the 'leaders' in the science?

But our correspondent will, we fear, think, in this instance at least, that our reply is not only ungracious, but that we are seeking to evade the issue he presents. We must therefore say, that to discuss the subject in its many bearings, and in a way to present in argument what could be quickly and easily shown by recourse to specimens, would require a long essay rather than the few paragraphs here at command. So we must content ourselves with adding to what was said or implied in the reply to our correspondent's former letter, and in Dr. Coues's letter above given, that a philosophic principle underlies the whole subject, and that it is not merely a matter to be decided by 'convenience.' While classification is to some extent conventional, the object of classification in zoölogy is to express the natural or genetic relationship of the objects classified; and the proper distinction of varieties from species is by no means an unimportant element in this scheme. The 'unbelievers' for whom Mr. Chamberlain speaks are not to be presumed to be so skeptical as to ignore the modern doctrine of evolution; and, viewed from this standpoint, it makes a vast difference whether we indifferently term a given form a 'species' or 'variety' in obedience to a mere principle of convenience. As Dr. Coues above states, the recognition of a form as a species implies "that the differentiation is accomplished, the links are lost, and the characters actually become 'specific.'" By varieties are meant forms that are not fully differentiated — in other words 'incipient species,' or species still in the process of evolution. It hence follows that the terms species and varieties are not interchangeable at will, but expressions for certain definite and known facts in nature, grounded on a philosophic principle, to ignore which is not only unscientific, but is to deprive us of a means of precise definition at a point where precision is of high importance. As we said before, and as Dr. Coues restates, the determination of how great a divergence from the common stock a form must have to render it desirable to recognize it in nomenclature, "is a matter of tact and experience, *like the appreciation of any other group in zoölogy.*"

As is well known, no two individuals of any species are exactly alike; yet it would be absurd and useless, were it not also impossible, to give names to each. There are also many local variations that are not too slight to be detected, but which are either too slight or too inconstant to require recognition. While theoretically it is possible to recognize 'varieties of varieties,' in practice this rarely occurs, and should never be countenanced; if a form is different enough to be recognized, it should stand as a variety of the common stock, not as a variety of a variety, although it may be more nearly related to some one of several varieties than to any of the others.* Again, the objection has been raised that the recognition of varieties is subject to the caprice of any dabbler who may feel disposed to set them up: theoretically this also is true, but in practice such work falls where it should — to experts, who occasionally err in judgment, or through inadequate material, but in the main are safe guides, and as such are followed, even by their peers when these have not themselves the same or a better opportunity to review the group in question. The recognition of a variety is a matter to be as carefully and conscientiously considered as the recognition of a species, or any higher group.

Hoping that our remarks may serve to throw a little further light upon the points at issue, we again take leave of the subject.—J. A. A.]

The Ornithological Report in the 'Cruise of the Corwin.'

To the Editors of The Auk:—

Sirs: I observe that in his notice of my ornithological paper in the 'Arctic Cruise of the Revenue Steamer Corwin,' Dr. Coues indulges in some severe strictures on the typographical errors and mechanical execution of the report.

It must be conceded that the number of these errors and their atrocity renders his critical remarks justifiable enough. Had, however, Dr. Coues noticed the statement that the author had no opportunity for proof-reading his paper he would scarcely, I think, have committed so grave an offence against the canons of just criticism, with which he may be presumed to be fairly well acquainted, as to employ the severe terms he does without an accompanying statement that the author's absence during the passage of his report through the press removes all blame from his shoulders. As I am compelled to believe he must have overlooked this note at the head of the errata slip, printed though it is in type of no inconspicuous size, it may chance that others may do so also; and I therefore take occasion to state—mainly for the benefit of those who may see Dr. Coues's strictures without having access to the report itself and the accompanying errata slip—that, while accepting full responsibility for all statements of fact contained in the paper, I cannot consent to be held accountable for errors of omission and commission in the way of proof-reading and typographical execution. My absence from Washington while this report was in press is regretted by no one so much as myself, but was unavoidable.

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* In this connection it seems not out of place to refer briefly to a point raised by Dr. Stejneger in his article in this number of 'The Auk' on the genus *Acanthis*. He alludes (p. 150) to Mr. Seebohm's practice of forming trinomials of the names of the conspecies most nearly related, as tending to better express their true affinities than does the method, adopted by American writers, of taking for the second term of the trinomial the name first given to the group of conspecies as a whole or to any of its forms; and adds: "This .... is a point which merits earnest consideration." We believe, however, that there are two unquestionably strong objections to Mr. Seebohm's method of constructing trinomials. First, it leaves the construction of conspecific names subject to individual opinion as to what two forms of a given group of intergrading forms are most nearly related — a point about which there must, in the nature of the case, be often a diversity of opinion. Second, and of far greater importance, it ignores the law of priority — the fundamental principle of our nomenclature — and therefore opens the way to instability of names and endless confusion. It seems to us perfectly evident that the law of priority should be considered as equally imperative in relation to conspecific — or subspecific — names as to specific and generic names. In other words, the name first applied to any form of a group of conspecies should be the designation, in a specific sense, for the group as a whole, and should also form the second term of the trinomial for each of its conspecies, whatever may be their relationship *inter se;* and that the slight gain accruing in special cases by Mr. Seebohm's method is much more than offset by the ill results that must inevitably follow from disregarding the law of priority in constructing conspecific names.

Very respectfully,

E. W. NELSON.

Tucson, Arizona.

[It was certainly not our intention to hold Mr. Nelson responsible for the typographical errors of his report; for we did notice his statement disclaiming responsibility therefor, and intended the general tenor of our 'strictures' to imply that the typographical eccentricities were no fault of his, although we failed to formally so state.—E. C.]

A Plea for the Metric System in Ornithology.

TO THE EDITORS OF THE AUK:

Dear Sirs: It seems to me extremely unfortunate that most of our ornithological writers persist in the employment of the confusing and irrational system of inches and hundredths, or, still worse, inches and lines, in the measurement of birds and their eggs.

The metric system is so simple, and its advantages so numerous, that it has already become the acknowledged standard in all departments of science. Certainly none will gainsay that its universal adoption is inevitable sooner or later. Then why defer the hour and thereby increase the already too great number of measurements that must eventually be reduced to the metric system? The labor of converting a series of measurements from one scale to another is not small, and life is too short for busy men to be obliged thus needlessly to waste valuable time.

If we were the only people who have occasion to measure birds the case would resolve itself into one of the relative convenience of the two systems (and even then the choice could but fall to the metric); but as a matter of fact there are ornithologists in all parts of the world, and the comparison of published measurements has become an every day necessity. "But the arithmetical disadvantage," in the language of the eminent President of Columbia College, Professor Barnard, "is by no means the whole, or even the greater part, of the evil which this state of things produces. A much more grave consideration is the fact that it interposes an effectual bar to the intelligent interchange of thought. It renders it impossible for an American to converse understandingly with an Austrian on any subject involving quantities of any description. It makes it impossible for an American to derive instruction from an Austrian book or magazine or journal where quantities are mentioned; or an Austrian from an American. This is an enormous evil, and as it exists not in this quarter only, but everywhere, the world has crying need of its removal."*

In times when communication between nations was of rare occurrence, incommensurability of unit bases was not dreaded as at present. But imagine the impediments to commerce that must have arisen from this source in Europe during the early part of the present century. The unit of measure known as the foot was 11.62 inches in Rome; 13.68 in Lombardy; 23.22 in Lucca; 9.76 in Avignon; 10.57 in Rouen; 14.05 in Bordeaux; 11.33 in Rostock; 19.21 in Geneva; 9.25 in Wesel; 10.89 in Bavaria; 13.12 in Carlsruhe; 10.86 in Brussels; 11.28 in Liége, etc. Is it to be wondered at, then, that these people, to again use the words of President Barnard, "in looking about for a common system, and finding the metric system to be an existing system, and a good system, and, above all, an available system, and the only one available for the purpose. . . . should have seized upon it, and legalized it, and made it permanent, without too anxiously concerning themselves with the questions whether the metre would not have been better if it had been a little longer or a little shorter, or if it had represented something different from what it does represent," etc. "Men of science have adopted this system, not only because of their approval of its principles, but because it is a labor-saving machine of immense capabilities."

Owing to the vast size of our own country we did not so soon feel the need of this reform, but our commercial relations with other powers are so extensive that our Government, eighteen years ago, legalized by act of Congress the use of the metric system in business transactions. It has been formally adopted by nearly all civilized nations, and has proved a far greater boon than even its most earnest advocates were led to expect.

A glance at the scientific journals of the day shows that this system is in vogue in all parts of the world, not only among physicists and chemists, but also among naturalists. Even in the United States it is largely employed by mammalogists, osteologists, palæontologists, herpetologists, and ichthyologists; by those engaged in the study of our invertebrates, and by botanists. Why then should American ornithologists, who desire and profess to keep abreast of the progress of knowledge in their department, permit themselves to postpone the acceptance of this most useful addition to their armamentarium by the continued employment of a scale of linear measure that is incommensurable with others, incongruous in itself, and fast becoming obsolete?

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* The Metric System of Weights and Measures. By F. A. P. Barnard, S. T. D., LL. D. New York, 1872, pp. 28-29.

The founding of the American Ornithologists' Union marks the commencement of a new era in American Ornithology. It is about to establish a stable nomenclature, based upon sound principles, and carried out with painstaking and impartial thoroughness. Let it also advocate, and let its organ 'The Auk,' demonstrate, that American ornithologists abandon the barbarous scale of their forefathers and join the men of science of all nations in adhering to a system of weights and measures that is uniform throughout the world, and whose simplicity and convenience are not among the least of its recommendations.

C. Hart Merriam, M. D.

Locust Grove, N. Y.

[Our correspondent's presentation of the advantages of the metric system and its claims for adoption is not only timely but so fully covers the ground that little need be added in its further advocacy. To the greater part of the present generation of American ornithologists the proposed change will be attended with more or less inconvenience, but should nevertheless be promptly assented to and heartily adopted, in the interest not only of science, but above all for the convenience of our immediate successors. The metric system is presented in our school text-books, and quite generally taught in our public schools; it is, as Dr. Merriam states, the system already most generally employed in science the world over, being used exclusively by the leading scientific writers in all departments of science, including even zoölogy. To make the transition period as brief as may be, it is desirable that the change be promptly and generally made; and to this end we would urge all contributors to the pages of 'The Auk' to give their measurements in the metric system.—Eds.]

NOTES AND NEWS.

Hard upon the letter in which Professor Hermann Schlegel honored the A. O. U. by accepting Foreign Membership of this Association—a letter written *alieno manu*, in consequence of fading eyesight—comes to us the sad news of his death, removing one of the world's great ornithologists Professor Schlegel died on the 17th of January at the age of 79, having been for some twenty-five years the Director of the Royal Museum at Leyden, and for half a century one of the most active and prominent of European workers in science. He is probably best known in this country by the numerous volumes entitled 'Muséum d'Histoire Naturelle des Pays-Bas,' in which are set forth the great riches of the Leyden collection, in the direction of which he succeeded Temminck on the death of the latter in 1858.

Mention of this name instantly recalls the famous work, 'Fauna Japonica,' by Temminck and Schlegel. Among the other leading works may be mentioned his critical review of European Birds (1844), published in French and German; his Birds of the Netherlands (1854); his 'Handleiding der Dierkunde' (1857); his European Diurnal Birds of Prey and treatise on Falconry; and his researches on the Fauna of Madagascar. One of his earliest treatises was an essay on the Physiognomy of Serpents (1837), said to be the first really scientific work on serpents ever published; and his latest publication was 'Notes from the Leyden Museum.' Our death-roll begins with one of the most illustrious names in ornithological science; but only after the exceptionally protracted and honored career of him who bore it — of one gathered to his fathers in the fulness of time — of one whose works are his imperishable monument.

—By a vote of the Union the Council was empowered to fix the date and place of the next Annual Meeting; and, persuant to this order, the Council, at a meeting held March 11 in Washington, decided on September 30 next as the time, and New York City as the place, for holding the Annual Meeting of 1884.

—We have received the announcement of the 'Internationale Ornithologische Zeitschrift,' an illustrated quarterly Magazine of Ornithology, to be published at Budapest, Hungary, edited by Dr. Julius von Madarász. Assistant Curator of the Hungarian National Museum. The subscription for the volume is 12 florins.

—'Random Notes on Natural History' is the title of a twelve-page monthly "devoted to the distribution of useful knowledge concerning the various departments of zoölogy, mineralogy, and botany," published by Southwick and Jencks, Providence, R. I. The two numbers that have reached us are carefully edited and neatly printed, and contain, besides the business advertisements of the publishers, many short articles relating to the subjects above mentioned, including various interesting bird notes.

—We are sorry to note that 'The Canadian Naturalist and Sportsman' for December, 1883 (published in February, 1884), contains the announcement that this valuable publication ends with this issue, owing to the pressing business engagements of its editor and publisher, Mr. William Couper. The steady improvement that has marked its course had led us to hope for it a long career of usefulness.

—'Bird Migration in the Mississippi Valley, by W. W. Cooke and Otto Widmann,' is the title of 'Bulletin No. 1' of the Ridgway Ornithological Club. The paper originally appeared as a series of articles in the 'American Field' (see *antea*, p. 188), and as here reprinted forms a pamphlet of 38 pages, and preserved in convenient form matter of great interest and value.

At the regular monthly meeting of the Ridgway Ornithological Club, held Feb. 7, Mr. B. T. Gault exhibited a hybrid between the Coot and Gallinule, and among the papers read was one by Dr. Morris Gibbs on the 'Genus *Empidonax*,' and two by Mr. H. K. Coale, respectively on the 'Summer Birds of Hyde Park, Ill.,' and on the 'Winter Birds of Stark County, Indiana.' At the March meeting Mr. Gault read a paper on the breeding habits of *Picus nuttalli*, and Mr. Coale one on *Cypseloides niger borealis*. Mr. G. L. Tappan exhibited a fine male '*Milvulus tyrannus*,' recently taken 'in Cailfornia'.

—In the 'Proceedings' of the last annual meeting (1883) of the Boston Society of Natural History we notice the reported existence in the Society's collection of a specimen of the Labrador Duck (*Camptolæmus labradorius*) and an immature Black-throated Diver (*Colymbus arcticus*) which have been identified by the donor, the Hon. Theodore Lyman, as specimens which came into his possession in the flesh in 1850, under circumstances leaving little doubt of their Massachusetts origin, they having in all probability been killed in Boston Harbor. This example of the Labrador Duck is additional to those mentioned by the late Mr. G. D. Rowley, in his memoir on this species, as existing in museums.

—The A. O. U. Committee on the 'Classification and Nomenclature of North American Birds' has held a second session in Washington, lasting eighteen days, which was devoted mainly to a consideration of the status of the species and subspecies. From the progress already made, it seems probable that the Committee will be able to make a detailed and final report to the Union at its next meeting.

—The plan of the work undertaken by the Committee on Bird Migration was fully set forth in the first number of 'The Auk' (pp. 71-76), and a list of the Districts, with their respective Superintendents, as far as at that time arranged, was also given. Eastern Canada, having proved too large for a single District, has since been divided into two: Quebec and the Maritime Provinces remain in charge of Mr. Chamberlain; while Ontario has been placed under the able superintendence of the veteran ornithologist, Mr. Thomas McIlwrath, of Hamilton. Mr. John Fannin of Burrard Inlet, British Columbia, has been appointed Superintendent of British Columbia.

The article published in 'The Auk' was reprinted in circular form, and 3000 copies of it were soon distributed. This number proving insufficient, a second edition of 2000 copies (corrected to date), subsequently issued, was wholly exhausted within a week from the date of leaving the press. Another impression of 1000 copies has since been struck off, and will, it is believed, meet the demands for the remainder of the season.

As a result of this distribution of five thousand circulars, the Committee has already secured about five hundred observers, and the number is daily increasing. At present writing there are observers in every State and Territory in the United States, excepting Alabama, Utah, Wyoming, Idaho, and Nevada, and these vacancies will probably soon be supplied.

Our Canadian Superintendents have thus far secured more than sixty observers—a much larger number than the Committee expected.

Even at this early date the Committee has received formal returns from Newfoundland, and from a large number of Stations in the United States.

Through the courtesy of the Hon. Wm. Smith, Deputy Minister of Marine and Fisheries of Canada, and of Commander Henry F. Pickering, U. S. N., Secretary of the Lighthouse Board of the United States, the Committee has secured the coöperation of these departments, which, it is hardly necessary to add, is indispensable to the success of the undertaking. The Department of Marine and Fisheries and the Lighthouse Board have distributed over one thousand sets of blank schedules* and circulars to the Lighthouses, Lightships, and Beacons of the United States and British North America.

The Committee has thus far been unable to find a Superintendent for the Lighthouse Division, which consequently remains in charge of the Chairman.

—THE circular issued by the A. O. U. Committee on the eligibility or ineligibility of the European House Sparrow (*Passer domesticus*) in America calls for information in respect to the economic relations of this bird to agriculture and horticulture. The circular presents a series of twenty-eight questions, to which the Committee desires explicit answers from those who may be willing and able to aid it by statements of facts derived from their own investigations or experience. A digest of the statements received will be presented in their report to the Union at its next annual meeting. The circulars may be obtained from, and returned to, either Dr. J. B. Holder, Chairman of the Committee, New York; Mr. Eugene P. Bicknell, New York; Mr. H. A. Purdie, Boston, Mass.; Mr. Nathan Clifford Brown, Portland, Me.; or Mr. Montague Chamberlain, St. John, N. B.

—THE 'First International Ornithological Congress,' under the patronage of his Royal Highness, Archduke Rudolf, will be held in Vienna, April 7 to 14, 1884. Three special subjects have been announced for consideration, viz: (1) an international bird-protection law; (2) the derivation of the domestic fowl, and the rearing and propagation of poultry in general; (3) the establishment of a network of ornithological observation stations throughout the world.

—IN consequence of unavoidable delays the vignette for the cover of 'The Auk' was not prepared in time for use in the January number. The figure of the Great Auk (*Alca impennis*) now presented is reduced (with permission) from the plate of this species in Mr. Cory's 'Beautiful and Curious Birds of the World.'

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* Through the kindness of Prof. S. F. Baird, Secretary of the Smithsonian Institution, these schedules have been furnished to the Committee free of charge.

THE AUK:

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A STUDY OF THE SINGING OF OUR BIRDS.

BY EUGENE P. BICKNELL.

(*Continued from p. 140.*)

Anthus pensilvanicus (*Lath.*) *Thienem.** AMERICAN TITLARK.

EVERY autumn, late in September or early in October, Titlarks appear in restless flocks, flitting about the brown fields and salt meadows, the quick double-note of many individuals sounding in agreeable consonance when the flocks are on the wing.

Before the present year I never knew them to occur in the spring, but this season they were present in large flocks through the greater part of April, first appearing on the 3d. On the afternoon of the 20th, I was quite sure I heard them sing; some short trills, sometimes broken into separate notes, certainly came from a flock of Titlarks in a large tulip tree standing alone in a wide field. Though the songs of Robins and Meadow Larks confused my hearing, before the flock took wing I heard enough to satisfy me that the Titlark does sometimes sing while it is with us on its spring migration.

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* [illegible]

Mniotilta varia. BLACK-AND-WHITE CREEPING WARBLER.

With this species, singing continues from its arrival in late April until the end of June. In some years I have not heard its song at all in July; in other years it sings occasionally up to the end of that month. The second song-period begins about the middle of August (9th to 22nd), and may last for a few days only, or for over two weeks; concluding dates fall between August 18 and 28. An exceptional date for song is September 23, 1879, when one of these birds was heard to sing perfectly several successive times. Final departure occurs five or six weeks after the cessation of song.

Helminthotherus vermivorus. WORM-EATING WARBLER.

Commonly remains in song after its arrival until the second week of July. Sometimes singing ceases a little earlier than this; again, in other years, songs are to be heard into the third week of the month.

The second song-period of this Warbler I can speak of only from one season's experience. On July 10, 1881, several of these birds were silently inhabiting a small tract of woodland, their first season of song having passed; here, on August 14, and again on the 21st, they were found in fine plumage and in full song.

The songs of no other three birds known to me are more alike than those of the Worm-eating Warbler, the Chipping Sparrow, and the Slate-colored Snowbird.

Helminthophila pinus (*L.*) *Ridgw.* BLUE-WINGED YELLOW WARBLER.

My data relating to the ending of the first song-period, in the case of those of our summer birds which earliest become silent, are less complete than I could wish; for experience had to teach me that observation which would discover the time when several species left off singing must begin before the middle of June.

The Blue-winged Yellow Warbler is perhaps the first of our summer birds to withdraw from the feathered choir. After its arrival in early May, scarcely a month elapses before singing has begun to wane; and it is not often continued after the middle of

June. Absence about this time in several recent years has interfered with my observations, but attentive visits to favorite haunts of the species in the last week of several Junes failed to show that it had not then become silent. Sometimes, indeed, it appears to cease singing soon after the end of May; again it may continue intermittently nearly to the end of June, and I have recorded a few isolated dates of song in early July.

A supplementary song-period occurs in August, usually about the middle of the month; beginning, according to my records, August 5 to 15, and ending August 18 to 24. Though the true spring song is then recovered, it is largely superseded by a markedly different song, which seems to be especially characteristic of the later season.

I have heard both songs succeed one another from the same bird. Representing the spring-song as *Ce-e-e-e—ker-r-r-r-r*, the later song would compare somewhat as follows: *Ker-r-r-r—kĭk-kik-kik-kik.* An approach to this song is sometimes noticeable towards the end of June; and the only songs of the species that I ever heard in July were much like it. In one season its song was not infrequent during the spring.

At the time of the resumption of singing in mid-August, before the species has come into possession of its full powers, I have sometimes heard some singular vocalization from it — a series of low, disconnected notes, unrecognizable as being from this species, sometimes, however, ending with the sharp *Kĭk*, *kik*, *kĭk*, *kik*, of the later song. This song sometimes strikingly suggests that of the Nashville Warbler.

At the time of this strange vocalism I have found the species completing a renewal of plumage, but with many feathers still in active growth. A little later, when singing is regularly resumed, the bird appears in its new attire, which is of a silken beauty, with even fresher and brighter colors than in the spring.

In view of the fact that hybridization seems to be established among certain species of the group to which this Warbler belongs, the above noted variations in song and time of singing may be due to other than merely individual and seasonal causes.

Helminthophila ruficapilla (*Wils.*) *Ridgw.* NASHVILLE WARBLER.

Sings regularly on its spring migration, but I have never heard it in the fall.

Helminthophila peregrina (*Wils.*) *Ridgw.* TENNESSEE WARBLER.

The transient presence of this species, in the upper foliage of the woodland in May, is usually revealed by its attractive song. In the autumn it passes in silence.

Compsothlypis americana (*L.*) *Cab.*[*] BLUE YELLOW-BACKED WARBLER.

A constant songster on its spring migration, but ordinarily silent in the fall, unless individuals sometimes cause exceptions to the rule. I feel quite positive of having heard a faint song on September 18, 1881, from one of a small party of these birds; but it was not repeated, and I could not verify my conviction. A little farther north, however, the species does sing on its return migration; for I am told by Dr. E. A. Mearns that, near West Point, he has sometimes found it in full song in the autumn.

The Blue Yellow-backed Warbler has two different songs. In one the notes coalesce into a fine insect-like trill; in the other four similar notes are followed by four others, weaker and more quickly given.

This species arrives in the fall in full plumage, and somewhat fat. The color of its fat is a very pale sulphury, in contrast to that of other species, as the Nashville Warbler or the Redstart, in which the fat is more opaque and of an orange or reddish color.

Dendrœca æstiva. SUMMER WARBLER.

Sings from its arrival in late April through July, but usually with diminished frequency toward the end of the month, although in some years it continues in full song nearly until mid-August. Ordinarily singing ceases in the second week of August; rarely earlier, but sometimes later. Extreme dates are August 4, 5, and 9, and August 18 and 19. This is the season of the bird's departure.

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[*] *Cf.* Stejneger, Auk, Vol. I, pp. 169, 170.

Dendrœca cærulescens. BLACK-THROATED BLUE WARBLER.

Passes by in full song in May. Though usually silent on its migration in the autumn, it is sometimes to be numbered among the birds which sing at that season. On September 22, 1878, a morning when birds were abundant and active, and a number voiceful, including the House Wren, Blue-headed and White-eyed Vireos, Swamp and Song Sparrows, several of these Warblers were observed in fine plumage and full song. It arrives in autumn with renewed plumage and usually with little fat.

Dendrœca coronata. Yellow-rumped Warbler; *D. maculosa.* Black-and-yellow Warbler; *D. pennsylvanica.* Chestnut-sided Warbler; *D. castanea.* Bay-breasted Warbler; *D. striata.* Black-poll Warbler; *D. blackburniæ.* Blackburnian Warbler; *D. virens,* Black-throated Green Warbler; *D. palmarum hypochrysea.* Yellow Red-poll Warbler; *D. tigrina.* Cape May Warbler.

All of these spring and autumn migrants sing as they pass north, but are silent when they return.

Siurus auricapillus. OVEN-BIRD.

Toward the end of June the song of this bird, which has been so constantly accentuated through our woodland for two months, becomes less frequent, and though heard into July, comparatively few individuals sing through the month. In some seasons I have missed it after the first week, but in others have heard it with some regularity through the second week, with rarely a chance song in the week following; July 23 is my latest date.

The second song-period occurs in August, and is transient and irregular; with varying seasons shifting a little to either side of the middle of the month. Rarely it continues imperfectly into September. August 9 and September 5 constitute extreme boundary dates, but at neither limit were the songs perfect. As if the power of song was gradually regained at the maturity of the new plumage, the time of silence which follows the breeding season, accompanying the moult, is finally interrupted, not with a sudden recommencement of song, but gradually with the cessation of feather-growth. About the middle of August a few notes suggestive of their song may now and then be heard about woody tracts where for weeks the birds have conducted themselves with silence and seclusion. These preliminary notes are hesitating and faintly uttered. On succeeding days they become louder and more extended, suggesting the beginning of the true song, but there is an uncertainty about their delivery which seems to betray either inability or lack of confidence. Later, a sudden bold effort may be made, when the bird follows the successively higher notes of its true song until a point is attained beyond which it seems incapable of proceeding, and abruptly discontinues. But after a brief season of such efforts and failures the true song is attained. Though the apparent inability of the bird to sing may result from lack of vigor after the moult, the manner in which song is regained suggests vocal disability as a not improbable cause of the preceding and succeeding silence. In the supplementary song-period, song is to be heard only for a few days and in the early morning hours, and seems never to reach the precision and vigor of the true spring song.

The ordinary song of the Oven-bird, but for its inseparable association with the quiet recesses of summer woods, would certainly seem to us monotonous and commonplace; and the bird's persistent reiteration of this plain song might well lead us to believe that it had no higher vocal capability. But it is now well known that, on occasions, as if sudden emotion carried it beyond the restrictions that ordinarily beset its expression, it bursts forth with a wild outpouring of intricate and melodious song, proving itself the superior vocalist of the trio of pseudo-Thrushes of which it is so unassuming a member. This song is produced on the wing, oftenest when the spell of evening is coming over the woods. Sometimes it may be heard as an outburst of vesper melody carried above the foliage of the shadowy forest and descending and dying away with the waning twilight.

Siurus nævius. SMALL-BILLED WATER-THRUSH.

In full song while passing in the spring. On its return visit it is ordinarily silent, though probably not invariably so. The song of a Water-Thrush heard in the evening of August 25, 1879, I felt very sure was of this species.

Siurus motacilla. LARGE-BILLED WATER-THRUSH.

My notes on this species, although incomplete, seem to indicate two song-periods; the first ending in June or early in July; the later confined to a brief period of late July or early August. I do not regularly hear its song after June has well advanced, but as the birds are not common near me, I have not had opportunity for full observation. Before the end of July the birds seem to feel the migrating impulse and begin to grow restless. They may then be found in places which have not known them through the breeding season, and songs, often of full continuance and power, may again be heard. My record gives July 22 and August 4 as limiting dates for the brief second song-period.

Geothlypis trichas. MARYLAND YELLOW-THROAT.

There is probably a dual season of song with this species, which is obscured by variation in the singing-time with individuals. Though it usually remains in song all through the summer, in the last weeks of July and the first of August singing is less general and less spirited than either before or after. Often after the middle of August songs will be louder and more frequent than for weeks previously. Singing may cease at any time from about the middle of August to the end of the month, or first part of September (August 12 and 19, to September 3, 4, 11 and 13); but September singing is unusual. The moult takes place in August, and is completed in September, when the birds become fat.

With this species the habit of song-flight is well developed. The little black-masked bird seems to believe it necessary that singing should continue through the whole course of the flight, and as the ordinary song, with which it begins, comes to an end while yet the bird is in the air, the time is filled out by a disarranged medley of notes very different from its usual utterance. I have not often seen these performances before mid-summer, and the August songs of the species are most frequently those which accompany these flights, which are oftenest indulged in the late afternoon or towards evening. This species, and the Oven-bird, and Yellow-breasted Chat appear to be the only members of the family Mniotiltidæ with which the song-flight is a normal and regular habit.

Icteria virens. YELLOW-BREASTED CHAT.

Regularly up to the middle of July, and sometimes through the third or even fourth week of the month, this species continues in song. Imperfect songs may sometimes be heard in early August, but rarely later, although my record extends to August 14. Dates of fairly perfect final songs range between July 15 and August 1. After the cessation of song the singular *chat* note of the species may yet be heard about the shrubbery which it still closely haunts; but even this seems to be discontinued before its departure.

This eccentric bird is perhaps our only species which regularly sings at night. Where Chats abound, it is a common experience to hear at one time several singing with full vigor at most untimely hours; and from my window I have listened to such serenades on many successive nights. They sing both when the moon is bright and when the night is clear and dark; their odd notes interrupting the midnight stillness with peculiar effect. Thus have I heard them into the small hours.

Myiodioctes mitratus. HOODED WARBLER.

The first song-period of this species seems rarely to pass early July—latest dates, July 10 and 15. Perfect songs heard in the fourth week of August locate the second song-period. At this time the plumage is approaching maturity.

As has before been reported, this species possesses two different songs, or perhaps more truly, two distinct variations of one. These differences, however, are neither individual nor seasonal, but seem to come within the normal vocal compass of the species, both songs being used indiscriminately by the same bird. This fact has been noted by Rev. J. H. Langille in the 'Bulletin of the Nuttall Ornithological Club' for April, 1882 (pp. 119, 120), whose experience in its discovery was very similar to my own. I well remember with what interest and excitement I followed one of the songs of this bird about the woods on many different days, expecting to make a new bird acquaintance, and with what surprise and chagrin I discovered that it proceeded from the Hooded Warbler, which had been constantly about me, but which I had never suspected to possess such versatility.

Myiodioctes canadensis. CANADIAN FLYCATCHING WARBLER.

Myiodioctes pusillus. BLACK-CAPPED FLYCATCHING WARBLER.

Both these species are in full song while passing in the spring, but I have never heard either sing on the opposite migration in the autumn. Then they appear with perfected plumage and usually with considerable fat.

Setophaga ruticilla. AMERICAN REDSTART.

In some years I have found this species songless soon after the beginning of July. In seasons when it thus early becomes silent singing is resumed in the first part of August, and continues for two or three weeks. But the period of July silence is inconstant, and sometimes singing is little interrupted through the month. When this is the case singing seems to cease finally at the end of the month or early in August, and is followed by no supplementary song-period. It is not probable that these indications of my records have resulted from incomplete observations; for records of the time of singing and silence of other birds go to show that the singing of a species in what is normally its central time of silence is at the expense of later song; and that the supplementary song-period is sometimes thus wholly sacrificed. My dates of last songs are limited by the third week of August, except in one exceptional instance when one of the birds was heard to sing on September 5. In the summer a song is commonly heard from the Redstart which is weaker and otherwise different from the normal, and which is probably produced by immature males.

Vireo olivaceus. RED-EYED VIREO.

A most untiring vocalist, maintaining song almost uninterruptedly through the summer, and only relinquishing it in September—from the 1st to the 10th. My records fail to show any regular time of silence before this; but singing is at a low ebb about mid-August, and in seasons of heat and drought almost fails at that time. Towards the end of the month, however, there is usually an accession of vocal energy.

With individuals of no other one of our birds is singing so continuous as with the Red-eyed Vireos. They are often to be heard in full song for a great part of the day about one spot in the woods or even on the same tree. I have watched single birds singing for many minutes uninterruptedly; that is, with no rests save the slight natural pauses between the different sets of notes that make up the song.

In August while the species is still in song, it is undergoing a change of plumage; this is consummated in September, when the bird soon becomes fat. I have shot individuals in August which, though in an active stage of feather-growth, were nevertheless in song.

Vireo gilvus. WARBLING VIREO.

In favorable seasons this Vireo sings through May, June, July, and the first half of August. But, whether it be because of unfavorable conditions or from scarcity of birds, in some years its song is so interrupted in July that during most of the month singing is the exception rather than the rule.

Singing may cease at any time during the first two weeks of August: later in the month the species is not often heard from, although I have a few dates of song in the third and fourth weeks. The true second song-period seems not to begin before the last days of the month, or September, when for a week or more the species may be generally in song. Latest dates for singing are September 14 and 18.

(*To be continued.*)

THE BREEDING HABITS OF THE PECTORAL SANDPIPER (*ACTODROMAS MACULATA*).

BY E. W. NELSON.

DURING my residence in Alaska I found this Sandpiper — the *E-a-bóŭk-kĭ-ŭg-ı-shū-ĭ-ū-gŭk* of the natives of Alaska — to be extremely common at the mouth of the Yukon River, where the low grassy flats afford it a much frequented breeding ground.

It arrives on the shores of Bering's Sea, near St. Michael's, from the 15th to the 25th of May, and, after lingering about wet spots where the green herbage just begins to show among the universal browns of the tundra, they pair and seek nesting places. It is a common but never very abundant bird near St. Michael's during both migrations, but it is rare there in the breeding season. This is difficult to account for, as the bird is extremely common at the latter period on the low flat islands in the Yukon Delta not far to the south, and it is also common at other points on the coast. Dall found it at Plover Bay, East Siberia, and I found it common on the north coast of Siberia, the last of July, 1881, where, like the Sharp-tailed Sandpiper, it was evidently upon its breeding ground. Flocks of these Sandpipers arrive on the east coast of Bering's Sea before the ground is entirely free from snow, and during September, in company with *A. acuminata*, are numerous about small brackish pools and the banks of tide creeks. October, with its frosty nights and raw unpleasant days, soon thins their ranks, until by the 10th or 12th the last one has gone.

The last of May, 1879, I pitched my tent on a lonely island in the Yukon Delta and passed the several following weeks in almost continual physical discomfort, owing to the rain and snowstorms which prevailed; however, I look back with pleasure upon the time passed here among the various waterfowl, when every day contributed new and strange scenes to my previous experience.

The night of May 24 I lay wrapped in my blanket, and from under the raised flap of the tent looked out over as dreary a cloud-covered landscape as can be imagined. The silence was unbroken save by the tinkle and clinking of the disintegrating ice in the rivers, and at intervals by the wild notes of some restless Loon, which arose in a hoarse, reverberating cry and died away in a strange gurgling sound. As my eyelids began to droop and the scene to become indistinct, suddenly a low, hollow, booming note fell upon my ear and sent my thoughts back to a spring morning in Northern Illinois, and to the loud vibrating tones of the Prairie Chicken. Again the sound arose nearer and more distinct, and with an effort I brought myself back to the reality of my surroundings and, rising upon elbow, listened. A few seconds passed and again arose the note. A moment later and, gun in hand, I stood outside the tent. The open flat extended away on all sides with apparently not a living creature near. Once again the note was repeated close by and a glance revealed its author. Standing in the thin grass, ten or fifteen yards from me, with its throat inflated until it was as large as the rest of the bird, was a male Pectoral Sandpiper. The succeeding days gave me opportunities to observe the bird, as it uttered its singular notes under a variety of situations and at various hours of the day or during the light Arctic night. The note is deep, hollow, and resonant, but at the same time liquid and musical, and may be represented by a repetition of the syllables *tōō-ŭ*, *tōō-ŭ-tōō-ŭ*, *tōō-ŭ*, *tōō-ŭ*, *tōō-ŭ-tōō-ŭ-tōō-ŭ-tōō-ŭ*.

Before the bird utters these notes it fills the æsophagus with air to such an extent that the breast and throat are inflated to twice or more the natural size, and the great air-sac thus formed gives the peculiar resonant quality to the note.

The skin of the throat and breast becomes very flabby and loose at this season, and its inner surface is covered with small tubular masses of fat. When not inflated the skin, loaded with this extra weight, and with a slight serous effusion which is present, hangs down in a pendulous flap or fold, exactly like a dewlap, about an inch and a half wide. The æsophagus is very loose and becomes remarkably soft and distensible, but is easily ruptured in this state, as dissection revealed. The male may frequently be seen running along the ground close to the female, its enormous sac inflated and its head drawn back and the bill pointing directly forwards; or, filled with spring-time vigor, the bird flits with slow but energetic wing-strokes close along the ground, its head raised high over the shoulders, and the tail hanging almost directly down. As it thus flies, it utters a succession of the booming notes adverted to above, which have a strange ventriloquial quality. At times the male rises twenty or thirty yards in the air and, inflating its throat, glides down to the ground with its sac hanging below; again he crosses back and forth in front of the female, puffing out his breast and bowing from side to side, running here and there as if intoxicated with passion. Whenever he pursues his love-making his rather low but far-reaching note swells and dies in musical cadence, and forms a striking part of the great bird chorus rising at that season in the North.

The Eskimo name indicates that its notes are like those of the walrus, hence the term they give it — 'walrus talker.'

Since my return from the North my attention has been called to a note in the 'Proceedings' of the Zoological Society of London (1859, p. 130), where it appears that Dr. Adams noted the peculiar habits of this bird above detailed when, in 1858, he passed a season at St. Michael's.

These Sandpipers were beginning to nest when I left the Yukon Mouth, and in one instance a female was seen engaged in preparing a place for her eggs in a tuft of grass; but the spot was abandoned before the eggs were laid.

In autumn its habits in the Far North are precisely those so familiar to all who know the bird in its southern haunts.

THE MIGRATION OF OUR WINTER BIRDS.

BY S. W. WILLARD.

IN the October (1883) number of the 'Bulletin of the Nuttall Ornithological Club' it is asked, "Why do Owls, Grosbeaks, Crossbills, and some other northern birds come south in winter?" Lack of food and extreme cold are stated as being insufficient reasons to explain this movement. As the birds are usually fat when they arrive, they hence cannot have lacked for food farther north. It also states, "the idea that any of these birds feel the cold is not entitled to a moment's consideration." Mr. William Brewster, after quoting the above, attempts to explain the question on the ground that "Birds, like many other beings, are fond of variety." He says: "The truth of the matter probably is, that when their breeding season is over, these birds habitually wander over vast extents of country. If the winter happens to be severe in the north they find a gradual improvement in conditions southward, and naturally, taking this direction, push on until a land of plenty is reached. . . . Thus they come and go, sometimes without apparent regard to conditions which govern the movements of our more regular migratory visitors."

We must acknowledge that birds do not differ so much from other animals as not to have the custom of wandering. The variation in the numbers of our resident species is due, to some extent, to this natural habit, but can this alone be sufficient to explain the movements of our northern birds? Do they breed so late in the season that this flight is taken before the excitement incident to their nesting has subsided, or do they leave their northern homes merely from the ordinary passion for wandering? That there is a subtle incentive to migration inherent in these species seems almost evident; but is this impulse due to reproduction, or is it analogous to the impulse that urges our regular migrants southward on the return of autumn? The latter seems to me the more plausible explanation; for why should this movement take place in the fall, or during the months of November and December, if it were occasioned by a mere desire to wander? Would it not be more natural to find these birds in southern latitudes in September and October, if wandering was the only incentive? During these months the weather is cool and apparently more conducive to long flights than the sharp, benumbing cold of later months. But this is not the case. We find these birds here just prior to or during the first genuine cold spell in the fall, which, in Northern Wisconsin, usually occurs about November 20. The majority of these visitors appear to remain but a short time, returning seemingly to their northern latitudes, even though the weather still continues cold.

By a systematic study of the avian fauna of Brown and Ontagamie counties,* I have found that the migratory instinct is represented in nearly all of its stages. We find birds that return southward during the fullness of vegetation and abundance of insect life; and species in which this instinct is not so well developed, but which take their departure only when spurred onward by the movements of other migrants, or the lowering of the temperature. Still others are represented in which this instinct is nearly dormant, and which seems only capable of being aroused by intense cold, such as usually occurs during the appearance of the more northern species in southern latitudes.

At the time when the greater part of animal life was confined within the tropics, our northern species were undoubtedly among the prisoners, and, with the throngs of other migrants, acquired the habit of pushing each spring towards the receding barrier, returning in the fall to a more congenial clime. But being a stronger and hardier class, these birds soon became aware that there was for them no necessity for a southern journey as extended as their allies were obliged to take.

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* In a paper read before the Wisconsin Academy of Sciences, Arts and Letters, at Madison, Dec., 1883, I arranged the birds of these counties in classes according to their migratory habits, and from this consideration I arrived at the conclusion given in this article.

Evidently the migratory habit, once so strong, is becoming dormant among some species, and only upon the sudden occurrence of intense cold is it awakened sufficiently to exert any influence whatever over the more rugged northern species.

Exceptional movements certainly occur, but owing to the high ornithological interest and conspicuousness of these northern species — coming at a time when other bird-life is absent — their movements are oftener recorded and are much more noticeable than similar ones among our commoner birds at seasons when each patch of woodland is filled with the notes of its hundreds of feathered occupants.

DESCRIPTION OF A NEW SONG SPARROW FROM THE SOUTHERN BORDER OF THE UNITED STATES.

BY H. W. HENSHAW.

In 1874 I collected several Song Sparrows in the southern portion of Arizona, which appeared to differ remarkably from those obtained to the northward in various portions of the Great Basin. Being under the impression that these specimens represented merely the extreme degree of variation of the interior race, they were labelled *fallax* and passed by. Since then I have seen other specimens from this region, and especially a series of twenty-one collected, at my request, at Tucson by my friend Mr. E. W. Nelson. From a comparison of all these with the very extensive series of Song Sparrows from the interior of the United States, contained in the National collection and in my own Museum, I am satisfied that there exist two well-defined races in the Great Basin, where hitherto there has been supposed to be but one. One of these is, of course, the *fallax* of Baird. The other I propose to describe as new. An examination of the type, to ascertain to which form the name *fallax* applies, reveals the fact that the type of *fallax* is from Tucson, and that it represents the fall plumage of what is really the older though least known form. In other words, the name *fallax* is to be restricted to the form inhabiting our southern border — Arizona and New Mexico — leaving the bird of the Great Basin at large outside of Arizona and New Mexico to receive the new name. The following is a description of the form :—

Melospiza fasciata montana, var. nov. MOUNTAIN SONG SPARROW.

♂ *Adult* (No. 11222, Coll. National Museum, Fort Bridger, Utah, June 18) : Crown, occiput, rump, and exterior surface of wings umber-brown ; crown striped medially with ashy gray ; sides of neck, nape, and superciliary stripe ashy ; feathers of dorsum black centrally, umber-brown exteriorly, making strongly marked longitudinal streaks ; feathers on back margined more or less with gray. Tail-feathers above light umber-brown much darker along the shaft. Tertiaries margined externally with whitish. Under parts grayish white ; breast and sides streaked heavily with dark umber-brown ; a heavy sub-malar stripe of same tint.

DIFFERENTIAL CHARACTERS :— *M. montana*. Above umber-brown with margins of feathers gray, giving a strong grayish aspect to the plumage ; back streaked with blackish brown ; streakings below blackish brown.

M. fallax. Above chiefly bright reddish brown ; back streaked with a darker shade of the same ; streaks below reddish, *not black* ; size smaller.

Fall specimens of *montana* are browner, with the markings generally less distinct, *i. e.*, more diffused. The black streaks of the back are always present.

The geographical limits of *fallax*, as restricted, cannot at present be given. I have seen specimens from Camp Grant and the Gila River, Arizona, while about Tucson it is the common form. It probably occupies in summer almost the whole of Arizona and New Mexico.

Concerning the presence of the two forms about Tucson, Mr. Nelson writes, under date of March 18, that the local race (*i. e.*, *fallax*) had been in full song for over a month, and dissection reveals every evidence of the near approach of the breeding season. The other bird (*i. e.*, *montana*) had already left for the north without singing, and without exhibiting signs of sexual excitement.

It thus appears that about Tucson *montana* is a winter visitant only, while *fallax* is a constant resident.

ANALECTA ORNITHOLOGICA.

Second Series.

BY LEONHARD STEJNEGER.

VI. ON THE PTARMIGANS OF NELSON'S 'BIRDS OF BERING SEA,' etc., ESPECIALLY THOSE BELONGING TO THE GROUP *Attagen* KAUP. *

IN a recent review of Nelson's 'Birds of Bering Sea and the Arctic Ocean' (Auk, 1884, p. 79), Dr. E. Coues makes the following remarks upon the Ptarmigans: —

"The case of the Ptarmigan, as presented by Mr. Nelson, can be understood only by reference to the erratum leaf. One is *Lagopus albus*. Two others (Nos. 78 and 79) are to be treated as one, both being headed '*Lagopus rupestris*, Rock Ptarmigan.' Thirdly comes No. 80, a certain '*Lagopus rupestris occidentalis*, Turner, Atkhan Ptarmigan.' . . . Mr. Nelson's fourth Ptarmigan is headed '*Lagopus alpinus*, Subalpine Ptarmigan,' and is only reported as from Siberia, and upon Nordenskjöld's authority."

Dr. Coues will take no offence when I declare that I cannot "understand the case by reference to the erratum leaf," and that I find it quite comprehensible if, in this case, we only pay no attention whatever to that ominous erratum leaf of the 'Cruise of the Corwin.' In reading Nelson's article about No. 79, *Lagopus rupestris bis*, it is evident that it is written under the supposition that the heading contained a name different from that of *rupestris*, either specifically or subspecifically. We turn now to that famous 'leaf' in order to find the name which ought to distinguish No. 79, the 'Ounalaskan form,' of which "but two specimens in the summer plumage are in existence": but we will only find there that "through an error the notes under numbers 78 and 79 were not placed under a single heading." But if we unite them, the passage referring to the Ounalaskan birds becomes simply meaningless; and under No. 78 is expressly said: "On the Aleutian Islands it [*L. rupestris*, sic stricte!] is represented by forms which *are* mentioned *below*"; whence, therefore, came the 'No. 79,' if it was not originally intended to be a distinct form? We are now justified in asking: What does the phrase on the erratum leaf mean? Was it prepared by Mr. Nelson himself, and does it indicate that he has given up 'No. 79' as a distinct form? Does it mean that "The detailed description of this form will [*not*] be given in the account of the Birds of Alaska, now in course of preparation"? This seems to be the most reasonable supposition; but it ought to have been clearly stated. As the case is, the unlucky erratum leaf only adds to the confusion.

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* *Attagen* Kaup, Entw. Eur. Thierw., p. 170, 1829 (types *montanus* [= *mutus*] and *islandicus* [= *islandorum*]) (*nec* Naum. 1833, *quæ Tetrastes*; *nec Attagen* Gray, Gen. Birds, III, 663, 1845, *quæ Fregata* Briss.; *nec Attagis* Geofr. and Less. 1830) = *Keron* "Montin" Gray, Handl. Birds, II, p. 273, 1870.—**Ατταγῆν** Aristot. (IX, 36, 5) a gallinaceous bird, probably *Perdix cinerea*. Lat. *Attagen* Plinius is *Lagopus muta*, among others.—*Keron* is not used by Montin as a generic or sub-generic term, but is simply the Lappic name appended to *Tetrao* in brackets. In the same manner is the Finnish name for *L. alba*, 'Rekusak,' appended to the systematic name of the latter.

There was no need, however, for Mr. Nelson to cancel 'No. 79' of his list, as this form certainly is distinct and rather easily characterized, and I take great pleasure in naming it

Lagopus rupestris nelsoni,

in honor of its discoverer.

It is remarkable for the rich ferrugineous-brown of the upper parts of its *preæstival* plumage, without gray intermixture — in this respect agreeing with *Lagopus ridgwayi* recently described by me from the Commander Islands, it resembling, in fact, the *postæstival* plumage of the latter, being, however, very distinct from its preæstival garb. It shares, together with *L. r. athkensis* (Turner), the uniform aspect of the upper surface and the minute blackish vermiculations without crossbars, either black or white, a peculiarity which gives their plumage an appearance similar to the postæstival plumage of other forms; but Nelson's bird differs from Turner's in being of a saturated brown color, while the latter is pale grayish suffused with rusty. In both these forms the jugulum and præpectus of the preæstival plumage are very distinctly and rather regularly transversely barred with black, in contradistinction to the Commander Island species, which has these parts almost uniform black, consequently belonging in the neighborhood of *L. muta* and not of *L. rupestris*.

The type of this new form is No. 93,488, U. S. Nat. Mus., a fine ♂ collected by Mr. E. W. Nelson, on the Island of Unalashka, May 18, 1877.

A detailed description is not thought necessary in this connection, as probably Mr. Nelson's original description will soon be published.

In respect to Nelson's remark about Dall's winter specimen from Unalashka, that the lack of "the black border through the eye appears to be a merely individual character," it may be mentioned, that the specimen in question is labelled '♀,' and consequently is in the normal plumage of the female, which usually lacks the black stripe.

The often-mentioned erratum leaf, however, does not correct a most important typographical error contained in the heading "*Lagopus alpinus*. (81.) Subalpine Ptarmigan"; for it is evident that it ought to be either "*Lagopus alpinus*. (81.) Alpine Ptarmigan," or "*Lagopus subalpinus*. (81.) Subalpine Ptarmigan"; but which of the two it is not possible to tell without turning to Nordenskjöld's original account.

Looking through Nordenskjöld's 'The Voyage of the Vega' (Amer. Ed., 1882, pp. 431-436) we find in his account of the animal life near his winter station, some notes given him by Lieutenant Nordquist (for which consequently the latter gentleman, and not Nordenskjöld, is responsible), and there (p. 433) occurs the following relating to our case: "Of land birds there winter in the region only three species, viz., an *owl* (*Strix nyctea*, L.), a *raven* (*Corvus sp.*), and a *ptarmigan* (*Lagopus subalpina*, Nilss.); the last-named is the most common." From this it would seem as if Mr. Nelson had intended to have No. 81 headed *Lagopus subalpinus* Nilss.; but in that case No. 81 only duplicates No. 77, *Lagopus albus*, of which it is and always has been an unconditional synonym. This is under the supposition that Lieut. Nordquist's determination is correct, which may be seriously doubted;* but if referable to a species of the *Attagen* (or *mutus*) group, his remarks should have been placed under *rupestris*, as it is to the latter form, and not to the true *mutus* (=

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*Mr. Nelson, on page 60, accepts a name from the same work without suspecting it to be identical with another bird of his list. Although no description accompanies the statement, that *Sylvia eversmanni* "in June settled on the black deck of the *Vega*," it seems little doubtful, that the bird was *Phyllopneuste borealis* Blas., of which, in fact, *Sylvia eversmanni* Midd. nec Bp. is a synonym. There is, consequently, every reason for uniting Nos. 8 and 9 under the heading of the latter. Of course it is much less likely to be the true *Ph. eversmanni* Bp., which is a synonym of *Ph. trochilus*, a Western Palæarctic form occurring not at all as far east as the 'Vega's' winter quarters.

alpina Nilss.),* that the Siberian Tundra Ptarmigan has been referred, while *mutus* is said to occur on the mountains of Southern Siberia only.† It will thus be seen that No. 81 of Nelson's list ought to disappear altogether as a separate heading.

VII. ON SOME CHANGES NECESSARY IN NORTH AMERICAN AND EUROPEAN ORNITHOLOGICAL NOMENCLATURE, IF GENERIC APPELLATIONS PREVIOUSLY APPLIED IN BOTANY BE NOT REJECTED.

A most superficial examination of a list of genera of birds will soon convince us that quite a number of names are in use both in ornithology and botany, while a closer examination shows that some of the ornithological generic names have been dropped and replaced by others because preoccupied in botany.

The following short list, picked up at random while hurrying over an alphabetical index, is evidence enough: —

Acrocephalus,
Aegialites,
Arenaria,
Bartramia,
Brachyrhamphus,
Calendula,
Callicephalus,
Ciconia,
Citta,
Corydalis,
Corypha,
Cyanocephalus,
Dasycephala,
Diomedea,
Drymophila,
Erythrina,
Glaux,
Hylophila,
Linaria,
Micropus,
Nectris,
Pallasia,
Passerina,
Peristera,
Petrophila,
Phaetusa,
Platylophus,
Polysticta,
Prunella,
Salicaria,
Sibia,
Spathulea,
Undina,
Vidua,
Wilsonia.

Several of these are also preoccupied in other branches of zoology, and are thus altogether out of question, for instance, *Erythrina* and *Pallasia*‡; others have been in unchallenged use since their creation; others again have had a varying fate, now being rejected, now again accepted, *e. g.*, *Bartramia* (= *Actidurus* Bp.), *Drymophila* (= *Myrmeciza* Gray, 1841) *Linaria* (= *Cannabina*), *Passerina* (= *Cyanospiza* Baird, 1858), *Petrophila* (= *Oroccetes* Gray, 1840), *Wilsonia* (= *Myiodioctes* Audub., 1839), etc.; while a few have not been revived since first dropped on account of having been preoccupied in botany, three of them having even received new names from their original describer, when he became aware of the fact, viz., *Micropus*, *Cyanocephalus*, and *Corypha*. In endeavoring to find means for creating a stable nomenclature, our rules must be as free as possible from exceptions, and in the present case we have only the choice between two methods: either to accept or to reject all the names preoccupied in botany.

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* *Cf.* Seebohm's description of two male birds obtained by him on the 22d of July at the Yenisej, in Lat. 71 1-2° — "the throat and breast are rather paler than the back" — and determined by Prof. Newton to be "most probably *rupestris*," while not belonging to *mutus* (Ibis, 1879, p. 148). The similarity of the Siberian bird with *rupestris*, as distinguished form *mutus*, was long ago mentioned by von Middendorf.

† Saunders, Yarr. Brit. Birds, 4th ed. III, p. 86.

‡ *Pallasia* was proposed by E. v. Homeyer in 1873 (J. f. Orn., 1873, p. 190) for a genus having *Alauda mongolica* Pall. for type. The group, being mainly characterized by the short secondaries, needs a new name, as that given by v. Homeyer is antedated by *Pallasia* Rob. D. 1830 (a dipter.), I propose to call it *Pterocorys* (**πτερόν** = *ala*, **κόρυς** = *galea*).

A glance at the above list will show at once that the changes resulting from a rejection of the names already applied in botany would be so radical and affect so many current names, that a choice in that direction must be considered very undesirable.

If we carry the rule out in the other direction, the changes will be less serious.

The first name to be considered then, is

Arenaria BRISS.

which antedates both *Morinella* Meyer and *Strepsilas* Illiger by fifty years (see my paper in Pr. U. S. Nat. Mus., 1882, p. 34). The two North American species would stand as

1. *Arenaria interpres* (Linn.) Vieill.— Turnstone.
2. *Arenaria melanocephala* (Vig.).— Black Turnstone.

Corypha GRAY, 1840.

was changed by the author himself in the following year to *Megalophonus*.

Cyanocephalus BONAP., 1842.

is eight years older than the same author's *Gymnokitta*, the synonymy of which stands as follows: —

1841.— *Gymnorhina* WIED, Reise Nord. Amer. II (p. 21) (*nec* GRAY, 1840).

1842.— *Cyanocephalus* BONAP., Oss. Stat. Zool. Eur. Vert. 1840-'41, p. 17 (*nec Botan.*).

1850.— *Gymnokitta* BONAP., Consp. Av., I, p. 382.

1880.— *Gymnocitta* COUES, Bull. Nutt. Orn. Cl., 1880, p. 98.

The only species belonging to the North American Fauna, is No. 285 of Ridgway's list, and would stand as

Cyanocephalus cyanocephalus (Wied).— Piñon Jay.

Micropus MEY. & WOLF

unfortunately antedates the current name *Cypselus* of Illiger by a year only. Yet, under the supposition above, there is hardly any escape from accepting it.

The synonymy of the genus is as under: —

1758.— *Hirundo* LINN. Syst. Nat. ed. 10. I, p. 191 (*part.*).

1777.— *Apus* SCOPOLI, Introd. Hist. Nat. p. 483 (*nec* PALL. 1776 *quæ* Crust.).

1810.— *Micropus* MEY. & WOLF, Taschb. Deutsch. Vög. I, p. 280 (*nec* Botan., *nec* SWAINS., 1831).

1811.— *Cypselus* ILLIG. Prodr. Syst. Mam. Av. p. 230.

1815.— *Brachypus* MEY. Vög. Liv- und Esthl. p. 142. (*nec* SWAINS., 1824).

1816.— *Cipselus* VIEILL. Anal. p. 38.

Illiger was very well aware of the two earlier names. Here are his reasons for rejecting them: "Nomina Apus, Micropus terminis zoographicis reddenda sunt, quam ob causam nomen Aristotelicum Cypselus, quod de nidis in foraminibus absconditis deductum videtur, generi restitui."

The American species would stand as

R. 349.— *Micropus saxatilis* (Woodh.) [*].

Those of Dresser's List Eur. B., p. 20, as

284. *Micropus apus* (Linn.).
285. *Micropus affinis* (Gray).
286. *Micropus pallidus* (Shelley).
287. *Micropus unicolor* (Jard.).
288. *Micropus melba* (Linn.).

The last genus of the list is

Wilsonia BONAP.,

which has also been rejected mainly on account of being preoccupied in botany. Dr. Coues (Birds Colorad. Val., p. 323)

[* It seems desirable to adopt for this species Professor Baird's name *melanoleucus* for reasons which will be apparent on reference to page 143 of "Birds of North America" (Vol. IX., Pacific RR. Reports). The name of the White-throated Swift would therefore be *Micropus melanoleucus* (Baird).— R. RIDGWAY.]

remarks that it, besides being preoccupied in botany, is also used in entomology. Its use in the latter connection is of very recent date, however, and cannot prejudice its use in ornithology, being proposed by Clemens in 1864 (Proc. Philad. Entom. Soc., II, 1864, p. 428) for a lepidopterous insect.

The name *Wilsonia* was given by Bonaparte in 1838 (Comp. List., p. 23) as a GENERIC term ("Genus 108, WILSONIA, Nob."), and in this genus he included the following species, thus named: —

138. *Wilsonia mitrata*, Nob.,
139. *Wilsonia bonapartii*, Nob.,
140. *Wilsonia minuta*, Nob.,
141. *Wilsonia pusilla*, Nob.:

these being exactly the same four species which at the present date are admitted into the genus. If the name *Wilsonia* cannot be rejected, because preoccupied in botany, it will have to take precedence of *Myiodioctes* Audub., 1839.

VIII. *Larus schistisagus*, A NEW SPECIES OF GULL FROM THE NORTH PACIFIC.

Among the specimens of Gulls collected by me on the Commander Islands is a very dark-mantled large species, somewhat intermediate between *L. marinus* and *L. cachinnans*, although in general aspect much nearer to the former, and when on the wing indistinguishable from it.

The occurrence of this new species in the Kamtschatkan waters easily explains the abnormality in the alleged distribution of *Larus marinus*, as it is almost certain that all North Pacific references to the latter species really belong to the present form.

Larus schistisagus n. sp.

DIAGN.— White: mantle dark bluish slate-gray. First primary with a long white tip, apical and subapical spots being fused together, and a gray 'wedge' on the inner web; second with a subapical white spot on the inner web only, and the gray wedge reaching further down towards the tip; third with the wedge reaching the white subapical spot; no gray wedge on outer web of the four first primaries. Feet pinkish flesh-color. Total length, 670 mm., wing, 460 mm.

TYPE: U. S. Nat. Mus. No. 92,885.

SYN. 1858.—*Larus cachinnans* KITTLITZ, Denkw. Reise, I, p. 336 (*nec* PALL.).

1858.—*Larus argentatus* KITTLITZ. op. cit. II, p. 225 (*part.*).

1860.—*Larus argentatus* var. *cachinnans* SCHRENCK, Reise Amurl. I, p. 504.

1871.—"*Larus fuscescens* Mus. St. Petersb." MEVES. Œfv. Sv. Vet. Akad. Förhandl. 1871, p. 787.

1874.—*Larus marinus* SWINH. Ibis, 1874, p. 165 (*nec* LINN.).—SAUNDERS, P. Z. S. 1878, p. 180 (*part.*).—SEEB. Ibis, 1879, p. 24.—BLAK. and PR. Tr. As. Soc. Japan, X, 1882, p. 104.—RIDGW. Bull. Nutt. Orn. Cl. 1882, p. 60.—BEAN, Pr. U. S. Nat. Mus. 1882, p. 168.—NELSON, Cruise Corwin, p. 107 (1883).

1876.—*Larus pelagicus* TACZAN. Bull. Soc. Zool. France, 1876, p. 263 (*nec* BRUCH).

HABITAT. Coast of Kamtschatka and other parts of the North Pacific.

This species was found by me in small numbers on Bering Island, near Kamtschatka, during the spring of 1883, and a single specimen was obtained on May 5. I afterwards met with it on the mainland of Kamtschatka in the vicinity of Petropaulski, where it breeds.

REMARKS. The color of the mantle is pure bluish slate-gray without any mixture of brownish, of a shade just between the same parts in *Larus occidentalis* and *L. dominicus*, being a little lighter than the lightest *L. marinus* I have seen, and easily distinguishable from the latter by the pureness of the gray.

Characteristic of the wing-pattern is the presence of a well-developed 'wedge' on the inner web of the first primary, as distinctive from *marinus*, as well as the absence of a similar wedge on the outer webs of the second to fourth primaries, in which it differs from *cachinnans* and *argentatus*. The 'mirror' on the second primary is also peculiar, resembling, however, the pattern of the corresponding quill in *L. cachinnans*. In the third primary the large white spot at the end of the gray wedge is very characteristic. It may thus be seen, that while the second primary shows less white than in *marinus* and *argentatus*, the third has more of the same color than is the case in the latter two species and in *cachinnans*.

Iris of a clear yellowish cream-color. Bill deep gamboge yellow with whitish tip and tomia; an orange red spot on each side of the lower mandible; angle of mouth yellowish flesh-color. Naked eye-ring reddish violet gray. Feet pinkish flesh-color; nails horny black with whitish tips. (From the fresh specimen!)

A more detailed account of the Slate-backed Gull will be given in my report on the birds collected by me on the Commander Islands and in Kamtschatka.

IX. *Priocella tenuirostris* (AUD.) NOT A BIRD OF BERING SEA OR THE ARCTIC OCEAN.

I feel compelled to correct another mistake in E. W. Nelson's 'Birds of Bering Sea and the Arctic Ocean.' At No. 166 he gives "*Priocella tenuirostris* (Aud.) Ridgw., Slender-billed Fulmar" as occurring in these seas, and says: "There is but a single record of this bird's capture on the coast of Alaska. This was at Kotzebue Sound, whence Mr. Dall secured a single skin during his explorations in the Territory." Under the head of the foregoing species, *Fulmarus glacialis rodgersi*, he passes the following remark: "As we approached the harbor of Ounalaska on September 22, 1881, hundreds of these birds were seen in the ordinary light-colored plumage, which were in company with about an equal number of birds either of the same species or a closely related one of exactly the same size. . . . . Mr. Ridgway suggests that the dark-colored birds seen at that time were the slender-billed *Fulmar*."

The bird which Mr. Dall procured was *Puffinus tenuirostris* Temm., and was correctly identified by Professor Baird, as everybody may be convinced by looking at the plate given (Trans. Chicago Acad. Sci., I, 1869, pl. xxxiv, fig. 2, pp. 322, 303). But this bird belongs to a totally different group, the Puffineæ, and is not the same as Audubon's *Procellaria tenuirostris* of the group Fulmareæ. The claim of the latter species for recognition as belonging to the North American Fauna rests solely upon Audubon's type, said to have been collected by Mr. Townsend off the mouth of the Columbia River and now preserved in the National Museum. As the name *Procellaria tenuirostris* is preoccupied by Temminck in 1828 for the *Puffinus*, Audubon's bird should stand as *Fulmarus glacialoides* (Smith) or *Priocella glacialoides*.*

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*The reviewer of Nelson's memoir, in 'The Auk,' 1884, p. 80, correctly quotes this synonym, but seems not to have been aware of the fact, that Dall's bird was something totally different. The error is repeated in Coues's 'Key,' 2d Ed., p. 779.

From this, it is needless to say, that Mr. Ridgway's suggestion did not allude to the Slender-billed *Fulmar*, but to the Slender-billed *Shearwater*. For my own part I think it just as probable that the bird seen was the dark phase of the bird usually know as *Procellaria pacifica* of Audubon. The latter name is preoccupied by Gmelin's *Procellaria pacifica* of 1788. and a new one should therefore be provided. I propose to call it *Fulmarus glacialis glupischa* ('Glupisch' being the name by which the bird is known in the North Pacific). I may add here, that Mr. Nelson is not quite correct either, when asserting that the only known record of this bird having been captured in Alaska is that of the bird obtained by Mr. Dall. F. H. v. Kittlitz secured a specimen at Unalaschka on August 31, 1828. The bird has been recorded by him under the name of *Procellaria curilica* Pallis, a synonym of Temminck's *Procellaria tenuirostris* (Denkwurd. einer Reise, I, p. 296). A third specimen is in the museum at Leiden, said to be from Sitka (Schlegel, Mus. P. B., Procell., p. 26 (1863)).

X. ON OLD AND NEW GENERIC NAMES.

The second part of Dr. S. H. Scudder's 'Nomenclator Zoologicus. An alphabetical list of all Generic Names . . . . II. Universal Index to Genera in Zoology. Complete List of Generic Names employed in Zoology an Palæntology to the Close of the Year 1879, as contained in the Nomenclatures of Agassiz, Marschall, and Scudder, and in the Zoological Record' (Bulletin No. 19, U. S. Nat. Mus.), is just out. As the title says, it is a compilation of the already existing four 'Nomenclatores Zoologici,' and one might, therefore, confidently expect to find almost all the generic names published up to 1879. Ornithologists, at least, will be rather disappointed, however. A hurried glance through the work made it apparent that the following generic names, applied to *North American* birds, are missing, 21 of which are used in the latest Smithsonian List of North American birds, prepared by Mr. R. Ridgway:

Ajaja, *Alle*, *Aluco* (Guerini, 1767), *Calcarius*, *Canace*, *Catherpes*, *Chamæa*, *Ciceronia*, *Clivicola*, *Cupidonia*, *Felivox*, *Florida*, *Fregetta*, *Heteroscelus*, *Phænopepla*, *Protonotaria*, *Psaltriparus*, *Riparia*, *Salpinctes*, *Simorhynchus* (Merrem, 1819), *Symphemia*, *Thalassarche*, *Thalassoica*, *Thryomanes*, *Tympanuchus*, *Xanthocephalus*, *Xanthura*.

Neither time nor space will allow me, on this occasion, to review the whole catalogue of some 80,000 names, but the following list of bird-genera, picked out of the letter E alone, will give an idea of the deficiences: *Eleopicus*, *Elminia*, *Empidivora*, *Entomiza*, *Eomelpusa*, *Eophona*, *Eparnetes*, *Epherusa*, *Ephippiorhynchus*, *Epitelarus*, *Erator*, *Eremomela*, *Ericornis*, *Eridora*, *Erodiscus*, *Erythra*, *Erythræna*, *Erythrauchoena*, *Erythrocercus*, *Erythroena*, *Erythrolaima*, *Erythronerpes*, *Erythropitta*, *Erythropsar*, *Erythrotreron*, *Eucampophaga*, *Eucapripodus*, *Euchloridia*, *Eucichla*, *Eucnemidia*, *Eucycla*, *Eudacnis*, *Eudyptila*, *Euetheia*, *Euhierax*, *Eulabœa*, *Euliga*, *Eulopogon*, *Eunetta*, *Euodice*, *Euphagus*, *Euptilosus*, *Eurycercus*, *Euryzona*, *Eusphenura*, *Eustrinx*, *Euthonyx*, *Eutolmaëtus*, *Eutrygon*, *Exetastes*, *Exochocichla*. The list is by no means complete and diligent search might add several more names.

The high standard of Agassiz's 'Nomenclator' resulted from his collaboration with prominent ornithologists. He had his proofs revised by men like Bonaparte, G. R. Gray, and Strickland, who, by allowing their names to be printed on the title-pages, partook of the responsibility. The same perfection might have been reached by Dr. Scudder, if he had followed a similar course.

Nevertheless, the work will be of very great use to the working ornithologists, who will only have to be careful to remember that he has not got a complete list of all the existing names.

A look through its pages shows the necessity of several changes in our nomenclature.

In the first place, I find that the name *Sthenetlus*, which I applied, in 1882, to the Black-necked Swan from South America, was preoccupied. It consequently requires a new one, and I propose in future to call the species *Sthenelides melancorypha*.

Eudocimus Wagler, 1832, will not hold good as the genus-name for the White and Scarlet Ibises, as there is a lepidopterous insect called "*Eudocima* Billb. 1820." It is very doubtful what name will have to replace it. *Guara* was bestowed upon the Scarlet Ibis by Reichenbach in 1851, and *Leucibis* at the same time upon the White Ibis. But in his 'List of Genera' of 1855 G. R. Gray quotes "*Paribis* Geoffroy" as a synonym of ***Eudocimus***, without further indication of its original occurrence or its date. Later authors have failed to find where it was originally given, and I have not been more fortunate; the name is possibly only a manuscript name. In view of these circumstances it seems desirable to adopt one of the names given by Reichenbach, ***Leucibis*** being preferable on account of its correct Greek derivation, as compared with the barbaric *Guara*. Until the question about *Paribis* can be settled the two North American species should stand as

R. 501. **Leucibis alba** (*Linn.*) *Reichenb.*, and
R. 502. **Leucibis rubra** (*Linn.*) *Stejn.*

Heteroscelus Baird, 1858, unfortunately will have to give away for *Heteroscelis* Latreille, 1825. As a substitute may be employed

Heteractitis,

from ἕτερος = different, and ὁ ἀκτίτης = an inhabitant of the shore. The North American species will stand as

R. 553. **Heteractitis incanus** (*Gmel.*) *Stejn.*

Before closing these remarks I would call attention to the fact that *Ligea* Cory, 1884, is preoccupied, whether spelt *Ligea* or *Ligia*. The former name was employed by Dybowski for a mollusk; the later by Fabricius for a crustacean. It seems desirable that Mr. Cory should supply the genus with another name.

NOTES ON CERTAIN LARIDÆ AND PROCELLARIIDÆ OF THE NEW ENGLAND COAST.

BY CAPT. J. W. COLLINS.

In the second volume of 'New England Bird Life,' edited by Dr. Elliott Coues, statements are made concerning the habits of certain species of our sea-birds to which it seems desirable to call attention, since, as I am informed, similar statements, though erroneous, have generally been put forth as facts by the majority of American ornithologists.

It is stated that the Greater Shearwater (*Puffinus major*)—the 'Hag' or 'Hagdon' of the fishermen—and the 'Black Hag' (*P. fuliginosus*), both of which usually come and go together, are winter birds on our coast. Though it may appear egotistical for me to question such high authority, I am, nevertheless, compelled to say that these birds are not found with us in winter, unless, indeed, a stray specimen might be seen. In thirty years of sea-life off the coasts of New England and the British North American Provinces, I have never seen any 'Hags' in winter, nor have I learned of their occurrence at that season. They usually come in May, the time of arrival being slightly varied by the condition of the weather. In the spring of 1879 I saw the first 'Hagdon' (*P. major*) on May 26, and three days later they were abundant, sitting on the water in large flocks, as is their habit when they first reach the fishing banks, or when they are about to depart in the fall, though at other times they rarely congregate except they may be attracted together by the presence of food. They usually leave the fishing grounds—from Cape Cod to the Grand Bank—in October and November; the first snow starts off any of these birds which have remained behind their companions.

I have no knowledge of where or when they breed. I have opened many hundreds (it would not, perhaps, be an exaggeration to say thousands), and I never found one with sexual organs in a condition which would indicate that the birds were breeding.

Dr. Coues also speaks of the Arctic Jaeger (*Stercorarins buffoni*) as "occurring off the coast in fall and winter, with other species of the genus." This is the 'Whiptail' of the fishermen, sometimes also called 'Marling Spike,' though the later name is more generally applied to the Pomarine and Richardson's Jaegers. All of the Jaegers are most abundant in spring and fall, as I find by consulting my notes; are rarely seen in midwinter, and are comparatively scarce in mid-summer. The Arctic Jaeger I have not seen in winter, so far as I can remember, and I have no notes concerning it at that season. It is not, however, at all improbable that it may occasionally be seen would do so), and that successive generations would eventually become pure white, with little if any red tinge.*

The geographical range of the two species suggests, from this standpoint, such a relationship between the two species, *E. ruber* being strictly tropical, and scarcely extending beyond the parallel of 20° north latitude, except as an accidental straggler, while *E. albus* is decidedly more northern, its centre of abundance lying between the parallels of 20° and 30° north.

The importance of this case as affecting the status of certain so-called dichromatic species of water-birds (notably among Herons) is very great. Probably no one would be willing to consider *Eudocimus ruber* and *E. albus* as dichromatic phases or races of one species; yet they are apparently as much so as *Ardea occidentalis* and *A. würdemanni* or *A. wardi* on the one hand or *Dichromanassa rufa* and *D. pealei* on the other; or at least, the probability of their common origin is evident.

A nearly parallel example is afforded by the Snow Goose (*Chen hyperboreus*) and Blue-winged Goose (*C. cærulescens*). In 'North American Water Birds,' Vol. I, page 437, the absolute similarity of size and proportions, involving all structural details, in these supposed, species, notwithstanding the great difference of colors, is alluded to, as "a fact which suggests the mere possibility of their being white and colored phases of one species, as in some Herons," and that, the chief variations in *A. cærulescens* being a tendency to increased extent of the white markings, "the possibility of such a relationship should be borne in mind."

ON THE OCCURRENCE OF THE WHITE-WINGED GULL (*LARUS LEUCOPTERUS* FABER) IN THE STATE OF NEW YORK.

BY GEORGE N. LAWRENCE.

EARLY in March of this year, I was requested by Mr. John G. Bell, to examine a Gull which had been sent to him to be

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*I am informed by persons who have shot *E. albus* in Florida that the plumage of living and freshly killed birds is decidedly tinged with pink or rose-color.

mounted, and as it was unknown to him, to determine the species.

On examination I found it to be a young specimen of *Larus leucopterus*; it was sent to him by Mrs. Greene Smith of Heterboro, N. Y., at which place it was captured.

I informed Dr. Merriam of the fact and suggested that he should write to Mrs. Smith, asking for particulars concerning it. He did so, and has communicated to me the following information:—

"Mrs. Greene Smith being away, the letter was answered by Mr. H. C. Wilson, her overseer. Wilson says: 'The Gull spoken of by you was shot by a farmer's boy, three-quarters of a mile from this place, in an open spring place, 1½ rods long by 10 or 12 feet wide, on the first day of February. The boy wounded it and kept it alive for two or three days. It was doubtless driven inland by the severe storm of about that date, as there is no open water nearer than Seneca Lake, 75 miles from this place.' This completes the data on the bird, I believe."

Mr. Bell said it was in poor condition; this was to be expected, from inability to procure its customary food.

The general plumage is of a dull white, marked all over with light ashy-brown spots; these are most distinct on the back and wings, and less defined on the head, neck, and under plumage; the quills are white on the inner webs, and ashy on the outer; there is no indication of any black spots on the ends of the primaries; the tail-feathers are light ashy-brown, mottled with dull white on the inner webs, except near their ends, where the ash color is immaculate; the bill is blackish-brown; the tarsi and toes are flesh-color.

The wing measures 16 inches; the tail, 6.50; the tarsus, 2; the bill from front, 1.50; from gape, 2.50: height at angle, 70.

This is the first immature specimen of this species I have had the opportunity to examine; it agrees very well with Audubon's figure of the young; the difference in plumage from that of the adult is very similar in character to that which exists in *Larus glaucus*.

There are but few references to its appearance in our state. Audubon says of it: "I have not met with this species farther south than the Bay of New York."

I inquired of Dr. Merriam for further information concerning it; he wrote as follows: "I have myself recorded *Larus leucop-*

terus from the Adirondacks (Bull. N. O. C., Vol. VI, No. Oct. 1880, p. 235). I did not kill the bird, but saw them (ther were two) for several hours flying about a pond. They we smaller than *argentatus*, and the primaries were without blac tips. This was just after the ice had gone out of the lakes i April, 1878."

BIRD NOMENCLATURE OF THE CHIPPEWA INDIANS.

BY W. W. COOKE.

DURING a three years' residence among the Chippewas at White Earth, Minn., I had many opportunities of learning the names which they give to birds, and some of their ideas regarding them. These Indians claim to have a name for each and every kind of bird inhabiting their country; as a fact, they have no specific name for fully one-half of those which yearly nest before their eyes, or pass by in migration. We may say in general that they give names to all winter residents, since at that time bird life is so scarce that each one is accurately noticed, while summer birds of much greater dissimilarity receive but one name.

Among summer residents, nearly all those that are hunted for food are named and described. Indeed, few white hunters, or ornithologists, can recognize the different species of Ducks as quickly or at as great a distance as many of these Indians. Of the other summer birds, most of the large species have names, but some of these, as, for example, those of the Hawks and Owls, are very loosely applied. They all seem to be familiar with the names, but not with the particular bird to which each belongs. This may be accounted for by the large number of stories about these birds which are told to the children, teaching them the names, but not the appearance of the birds. The small birds of summer seem to the Indian beneath his notice, and when asked the name, the answer not uncommonly is, "Why do you want to know its name? It isn't good to eat." They consider that when to a small winged animal they have given the name 'bird,' they have done their whole duty.

In regard to the etymological meaning of the bird names, we find, as in English, that some are descriptive of the bird or its habits, while others are mere names, without signification. A large proportion are compounds, for the language as a whole is compound, with but few roots, these usually having meaning. The names of most of the large, common, and best known birds are simple and without signification.

All the bird names used by Longfellow in 'Hiawatha' were identified except *O-wais'-sa*, the Bluebird; *Chi-to'-wak*, the Plover, and *Wa-won-e'-za*, the Whippoorwill. Longfellow says the scene of his poem is laid among the Indians of the Pictured Rocks of Lake Superior, but I was unable to find any Indian who had ever heard these names, though I examined several who were born and brought up along the southeast shore of the lake. It may be that these words belong to the Canadian Chippewas or *Nah-tah-was*, and have been accidentally introduced among the names of the western tribe.

The names given by Bishop Barega, in his dictionary of the Ojibwa Language, have all been identified except *A-mik'-o-shib*, the Beaver Duck; *O-da'-ma-we'-shi*, a small white bird; *Ja-wa'-ni-bi-ne'-shi*, South Bird; *Du-qua'-que-we'-shib*, Short-necked Duck, and *Mi'-gi-san-na-nis'-si*, Eagle-fighter, a small blue bird. Unfortunately the Bishop, though a good theologian, was no ornithologist, and besides saying "Are not two *swallows* sold for a farthing?" he has wrongly identified nearly one-half of the birds he has named.

The list, as it now stands, is practically complete. At the outside there are not more than five or six names to be added.

In these names the French system of spelling is used—that is, *a* has the sound of a in ah; *e* is pronounced like a long; *i*, like e long; *o*, like o long, *u*, like u short; *ai*, like i long; *j*, like zh; *g*, usually like g hard; in the few cases where *g* is soft it is distinguished by being printed in Italic type.

The English name is given first, then the Latin, according to the Smithsonian Catalogue, then the Chippewa, then the etymological meaning of the Indian name, and lastly, remarks.

THRUSH, in general, *A-nuk'*.

1. OLIVE-BACKED THRUSH. *Hylocichla ustulata swainsoni*. A-nuk'. Mere name.

2. WILSON'S THRUSH. *Hylocichla fuscescens*. An-wak'. Name.

3. American Robin. *Merula migratoria.* **O-pi'-che.** Name.

4. Catbird. *Galeoscoptes carolinensis.* **Ma-ma'-dwe-bi-ne'-shi,** the bird that cries with grief; referring to its note.

5. Brown Thrush. *Harporhynchus rufus.* **Chi'-a-nuk',** big Thrush.

6. Bluebird. *Sialia sialis.* **O-zou-wash'-ko-bi-ne'-shi,** the blue colored bird.

7. Black-capped Chickadee. *Parus atricapillus.* **Kitch'-i-kitch'-i-ga'-ne-shi.** Attempted mimicry of its song.

8. White-bellied Nuthatch. *Sitta carolinensis.* **Chi-chi-ga'-nan-da-we'-shi.** Imitation of song.

9. Red-bellied Nuthatch. *Sitta canadensis.* **Ki-ki-bi'-di-ko-me'-shi.** Imitation. Some claim that this is merely another name for *S. carolinensis.*

10. House Wren. *Troglodytes aëdon.* **O-du-na'-mis-sug-ud-da-we'-shi,** making a big noise for its size. They do not distinguish it from the Winter Wren.

11. Marsh Wren. *Telmatodytes palustris* and *Cistothorus stellaris.* **Mus-ko'-zi-bi-ne'-shi,** marsh bird. They do not distinguish between the two Wrens, nor between these and the Swamp Sparrow (*Melopisa palustris*).

12. Summer Yellowbird. *Dendrœca æstiva.* **O-za'-wa-bi-ne'-shi,** yellowbird. They would also apply the same name to all the Warblers which have much yellow, thinking that they are all one and the same species.

13. Black-throated Blue Warbler. *Dendrœca cærulescens.* **O-ja'-wa-no,** bluebird. Of this I am not sure, although I have it on good authority.

14. Vireo. Not a Vireo is named.

15. Shrike. *Lanius borealis.* **Kitch'-i-win'-di-go-bi-ne'-shi,** big cannibal-bird.

16. Bohemian Waxwing. *Ampelis garrulus.* **O-zi'-gi-ban-wan'-i-shin,** crested bird.

17. Cedar Waxwing. *Ampelis cedrorum.* **O'-gi-ma-bi-ne'-shi,** the bird that is king or chief.

18. Purple Martin. *Progne subis.* **Mu-ku-de'-shau-shau'-wun-ni-bi'-si,** black Swallow. All other Swallows, **Shau-shau'-wun-ni-bi-sence',** little bird that tumbles over and over in the air; alluding to its manner of flying.

19. Scarlet Tanager. *Pyranga rubra.* **O-da-gi-na-ma-ne'-shi.** Could not learn its meaning. The name *Ish'-ko-de-bi-ne'-shi,* fire bird, is also applied to it, just as the whites call it the Firebird.

20. Evening Grosbeak. *Hesperiphona vespertina.* **Pash-kan'-da-mo.** Refers to a noise made by breaking something, but I am unable to find any reason for applying it to this bird.

21. Pine Grosbeak. *Pinicola enucleator.* **O-ka-nis'-se.** Mere name.

22. Crossbill, both species. **A'-ji-de-ko-ne'-shi,** having a crossed bill.

23. American Goldfinch. *Astrigalinus tristis.* **Bi-yung'.** Name.

24. SNOW BUNTING. *Plectrophanes nivalis.* **Wa'-bu-nong-o'-zi,** morning star bird; application not obvious.

25. SONG SPARROW. *Melospiza fasciata.* **Kos-kos-ko-ni'-chi,** making a scraping or whispering noise. This name is also indiscriminately applied to any small dull-colored bird, which is seen in the grass or on low shrubs. Probably thirty or more species would be included under this name.

26. BLACK SNOWBIRD. *Junco hiemalis.* **Bu-te'-shi-wish.** Name.

27. TOWHEE BUNTING. *Pipilo erythrophthalmus.* **Muk-ud-e'-ai-a'-nuk,** black Thrush.

28. ROSE-BREASTED GROSBEAK. They must have a name for it, but I failed to find it.

29. BOBOLINK. *Dolichonyx oryzivorus.* **Shi-ka'-go-bi-ne'-shi.** Chicago bird, that is, skunk bird, from the white stripe down the middle of the back.

30. COWBIRD. *Molothrus ater.* **A-ga'-jid-as-sig'-gi-nak,** small Blackbird.

31. YELLOW-HEADED BLACKBIRD. *Xanthocephalus icterocephalus.* **Bwan-ence'-as-sig'-gi-nak,** little Sioux blackbird; because its home is in the west, in the land of the Sioux.

32. RED-WINGED BLACKBIRD. *Agelæus phœniceus.* **Me'-mis-ko-di'-ni-mang-a-ne'-shi,** the red-shouldered bird.

33. BLACKBIRD, in general. **As-sig'-gi-nak,** living in flocks.

34. MEADOW LARK. Very scarce in the land of the Chippewas, and I could find no one who had ever heard a name for it.

35. BALTIMORE ORIOLE. *Icterus galbula.* **Wa-do'-pi-bi-ne'-shi,** poplar or willow bird, from its nesting so frequently on the boughs of these trees.

36. PURPLE GRACKLE. *Quiscalus purpureus.* **Chi-as-sig-gi-nak,** big Blackbird.

37. AMERICAN RAVEN. *Corvus corax carnivorus.* **Ka-gog-i'.** Name.

38. CROW. *Corvus frugivorus.* **An-deg'.** Two meanings are given, (1) "renewal," referring to the spring, and (2) "those that come," meaning those that migrate, in contradistinction to the Raven, which is resident. Whichever meaning is the true one, it remains a fact that the Chippewas look upon the coming of the Crow as the sign of spring, and say: "We will soon be making sugar. The Crows have come." All signs are fallible, and I have seen it 35° below zero after the Crows had made their appearance.

39. MAGPIE. *Pica rustica hudsonica.* **A-pish'-ka-gog-i',** like the Raven.

40. BLUE JAY. *Cyanocitta cristata.* **Jan-di'-si.** Name.

41. CANADA JAY. *Perisoreus canadensis.* **Guin-gui'-shi.** Name.

42. SHORE LARK. *Eremophila alpestris.* **O-za'-wa-wa'-bu-nong-o'-zi,** yellow Snow Bunting.

43. KINGBIRD. *Tyrannus carolinensis.* **Win'-di-go-bi-ne-shi.** Cannibal bird, or the bird which has the characteristics of a cannibal giant.

It will be noticed that they give the same name to the Shrike and the Kingbird; a name which refers both to the butchering qualities of the one and the fighting qualities of the other.

44. PHŒBE. No name, and none for the rest of the Flycatchers.

45. RUBY-THROATED HUMMER. *Trochilus colubris.* **Nen-o-ka'-si.** Name.

46. CHIMNEY SWIFT. *Chætura pelasgica.* **Me-mit'-ti-go-ning-gue-ga-ne'-si**, wooden quills, in allusion to the stiff tail-feathers.

47. WHIPPOORWILL. *Caprimulgus vociferus.* **Gwen-go-wi-a'**, imitation of cry. As the Indian pronounces it, it is a better imitation than our English *whip-poor-will.*

48. NIGHTHAWK. *Chordiles popetue.* **Besh-que'**, imitation of the peculiar noise it makes as it swoops down when flying.

49. HAIRY and DOWNY WOODPECKERS. *Picus pubescens* and *P. villosus.* **Pa-pa'-se**, cracking, from the noise the bird makes in pecking at trees. *Picoides arcticus* and *Sphyrapicus varius* occur, but are not distinguished from *Picus villosus.*

50. PILEATED WOODPECKER. *Hylotomus pileatus.* **Me'-me**, probably from its cry.

51. RED-HEADED WOODPECKER. *Melanerpes erythrocephalus.* **Pa'-que-a-mo'**, the bird that breaks off pieces.

52. YELLOW-SHAFTED FLICKER. *Colaptes auratus.* **Mo-ning'-gua-ne'**, bird with dirty colored wings.

53. KINGFISHER. *Ceryle alcyon.* **O-gish'-ki-mun-is-si'**, cut up to a point, as the Indians dress their hair on state occasions; referring of course to the bird's crest.

54. CUCKOO, both species. **Pi-gua-o-ko'-que-o-we'-shi**, imitation of note, which in Indian, as in English, is supposed to foretell rain.

55. OWL, in general. **O-ko'-ko-ko-o'**, afraid. The word is now used in Chippewa with that meaning. I suspect, though I have no authority for it, that the name was originally given to the bird in imitation of its note; and then, as its habits during the day time became known, the word came later to have its present meaning.

56. LONG-EARED OWL. Distinguished but not named.

57. SHORT-EARED OWL. Not distinguished.

58. BARN OWL. *Aluco flammeus americanus.* **Bo'-du-wi-dom-be'**. No meaning that I can find.

59. BARRED OWL. *Strix nebulosa.* **Wen'-gi-du-ko-ko-ko-o'**, true Owl.

60. GREAT GRAY OWL. *Ulula cinerea.* **We-wen'-gi-ga-no'**. No meaning found,

61. LITTLE SCREECH OWL. *Scops asio.* **Ka-kab'-i-shi.** Mere name.

62. GREAT HORNED OWL. *Bubo virginianus.* **O-tow'-i-ge-o-ko'-ko-ko-o'**, horned Owl.

63. SNOWY OWL. *Nyctea scandiaca.* **Wa'-bi-o-ko'-ko-o'**, white Owl.

64. HAWK OWL. No name found.

65. HAWK, in general. **Ke-kek'**, mere name, unless possibly imitation of scream.

66. SPARROW HAWK. *Tinnunculus sparverius.* **Pi-pi'-gi-wi-zance'**, a diminutive name.

67. FISH HAWK. *Pandion haliaëtus carolinensis.* **Mi'-*gi*-ki-gua-ne'.** Name.

68. SWALLOW-TAILED KITE. *Elanus forficatus.* **Kitck'-i-shau-shau'-won-ni-bi'-si**, big Swallow.

69. MARSH HAWK. *Circus hudsonius.* **O-no'-*gi*-gi-neb-i-que'-si**, snake hunter.

70, 71. COOPER'S HAWK and SHARP-SHINNED HAWK (*Accipiter cooperi* and *A. fuscus*) are both called **Ke-kek'.** When wishing to distinguish them, *A. cooperi* is called **Mish'-i-ke-kek'**, hairy Hawk; application not obvious.

72. RED-TAILED HAWK. *Buteo borealis.* **Mis'-qua-na-ni'-si**, small red Hawk.

73. GOSHAWK. *Astur atricapillus.* **Ki-bwan'-i-si.** I think this is correctly identified. It was given to me as "a large Hawk which stays here all winter," and I think the Goshawk is the only one that remains habitually in northern Minnesota during the winter.

74. ROUGH-LEGGED HAWK. *Archibuteo legopus sancti-johannis-* **Mu-ku-de'-ke-kek'**, black Hawk.

75. SWAINSON'S HAWK. *Buteo swainsoni.* **Tchai-ince'.** Mere name. Of this I am not sure, and I think it not unlikely that *B. lineatus*, *B. swainsoni*, and *B. Pennsylvanica*, all come in for a share in this name.

76. GOLDEN EAGLE. *Aquila chrysaëtos canadensis.* **Gi-neu'.** Name. This is the War Eagle of the Chippewas, and its tail-feathers are highly prized as head ornaments.

77. BALD EAGLE. *Haliaëtus leucocephalus.* **Mi'-gi-zi.** Name. When young, or gray, it is called ***Ini'-ni-zi***, man Eagle: when old and white, ***Wa'-bi-jush-kwe'***, white woman.

78. TURKEY BUZZARD. *Cathartes aura.* **Wi-nong'-a.** dirty wing.

79. PIGEON. *Ectopistes migratoria.* **O-mi'-mi.** Imitation of note.

80. MOURNING DOVE. *Zenaidura carolinensis.* Not distinguished, but the tame Dove is called **Wa'-ba-mi'-mi**, white Pigeon.

81. TURKEY. *Meleagris gallopavo americana.* **Mi-sis'-si.** Name. They call the Peacock the 'splendid Turkey.'

82. CANADA GROUSE. *Canace canadensis.* **Mus-ko-de'-se**, prairie bird.

83. PRAIRIE HEN. *Cupidonia cupido.* **A-gusk'**, imitation of call in spring. The Shrap-tailed Grouse is quite as common as *C. cupido*, but is not distinguished.

84. QUAIL. *Ortyx virginianus.* No name.

85. RUFFED GROUSE. *Bonasa umbellus.* **Wen'-*gi*-da-bi-ne'**, true Grouse. Grouse in general, **Bi-ne'.** Mere name.

86. GREAT BLUE HERON. *Ardea herodias.* **Shu-shu'-ga.** Name; possibly imitative.

87. AMERICAN BITTERN. *Botaurus lentiginosus.* **Mosh-ka-was-shi**, coming up from under. The Indians claim that it makes its cry while

holding its head under water, so that the sound has to come up out of th water.

88. Least Bittern. *Ardetta exilis.* **Ga-na-wa'-bi-mo-gi'-zis-swesh'-in**, the bird that looks at the sun; referring to its habit of climbing upon reed stalks and then holding up its head, as if looking towar the heavens.

89. Golden Plover. *Charadrius dominicus.* **O-za'-wa-gi'-gak-o-ch is-ki-wen'**, yellow Crane Sandpiper.

90. Killdeer. *Oxyechus vociferous.* **Mus-ko-de'-chi-chi-ji'-twish-k-wen'**, big prairie Sandpiper.

91. Woodcock. *Philohela minor.* **Kitch'-i-pa-dash'-ka-an'-ja'**, big Snipe.

92. Wilson's Snipe. *Gallinago media wilsoni.* **Pa-dash'-ka-an'-ja**, bill long and pointed.

93. Sandpipers, in general, and the Pectoral Sandpiper (*Actodromas maculata*) in particular, **Ji-twish'-ki-wen'**. Poor imitation of cry.

94. Curlew. Am told it has a name, but have been unable to find it.

95. Sora Rail. *Porzana carolina.* **Mo-no'-min-i-kesh'-i**, rice bird, from its living in the swamps of wild rice. This is the only Rail they are familiar with, but they would use the same name for any other kind.

96. American Coot. *Fulica americana.* **A'-tchi-ga-deg'**, legs hanging down behind.

97. Sandhill Crane. *Grus canadensis.* **A-gi-gak'**. Name.

98. Whooping Crane. *Grus americana.* **Wab'-a-gi-gak'**, white Crane.

99. Swan, both species. **Wa'-bi-si**, white bird.

100. The name *Ma'-na-bi'-si*, they say they give to a small kind of Swan that is not an uncommon visitor to this country. I am unable to identify the bird, but suspect it is the Snow Goose.

101. Canada Goose. *Bernicla canadensis.* **Ni-ka'**. Name.

102. Brant. *Bernicla brenta.* **We'-we'** (with strong nasal sound and emphasis to each syllable). Imitation of the bird's 'honk.'

103. White-fronted Goose. *Anser albifrons gambeli.* **A-pish'-ni-ka'**, like a Goose. This is the only bird that is at all like the description they give of this species. Still I am not perfectly sure of the identification.

104. Mallard. *Anas boscas.* **I-ni'-ni-shib'**, man Duck. *Shib* is the ending meaning Duck. The female Mallard they call *Wab'-i-ni-ni-shib'*, white Mallard.

105. Black Mallard. *Anas obscura.* **Muk-ud-e'-shib**, black Duck.

106. Pintail. *Dafila acuta.* **Kin-o-gua'-ya-we-shib**, long-necked Duck.

107. Shoveller. *Spatula clypeata.* **Ma-da-i-ga'-ni-shib**, shovelling Duck.

108. Blue-winged Teal. *Querquedula discors.* **We-wi'-bing-guang-ge'**, making a noise while fluttering its wings.

109. Green-winged Teal. *Nettion carolinensis.* **Sug-gu-ta'-ka-ni-shib**. Spunk Duck. Can find no reason for giving this name. It is also called 'Big Teal.'

110. WOOD DUCK. *Aix sponsa.* **Si-a-mo'.** Name.

111. SCAUP DUCKS (both *Fulix marila* and *F. affinis*). **Ma'-ni-do-shib'**, spirit Duck.

112. RING-BILLED BLACKHEAD. *Fulix collaris.* **Tu-gua'-go-shib**, fall Duck.

113. REDHEAD. *Aythya americana.* **Kitch'-i-tu-gua'-go-shib**, big fall Duck. The Indians call the Canvasback by the same name. They did not distinguish between the two species until white hunters taught them the difference.

114. AMERICAN GOLDEN-EYE *Clangula glaucium americana.* **Mud-we-ang'-ge-shib**, wings making a whistling. Another name for the same Duck is *Pi-kwa'-ko-shib*, arrow Duck.

115. BUTTERBALL. *Clangula albeola.* **Wa-ke'-i-a'-wi-shib'**, shot eater, because it is so hard to hit.

116. SHELDRAKES, in general, **An'-zig**, from an herb, growing at the bottom of lakes, on which it feeds.

117. AMERICAN SHELDRAKE. *Mergus merganser americanus.* **Kitch-i-an'-zig**, big Sheldrake.

118. RED-BREASTED SHELDRAKE. *Mergus serrator.* **O-ga-wan'-zig**, yellow Sheldrake.

119. HOODED SHELDRAKE. *Lophodytes cucullatus.* **Gi-ni-ko-ne'-shib**, sharp-billed Duck.

120. A Duck, not identified, is called **A-mik'-o-shib**, Beaver Duck.

121. PELICAN, both species. **She'-de.** Name.

122. DOUBLE-CRESTED CORMORANT. *Phalacrocorax dilophus.* **Ka-gog'-i-shib**, Raven Duck.

123. For all the Gulls and Terns, they have but one name, **Kai-osk'**, intended as an imitation of their cry.

124. HORNED GREBE (*Dytes auritus*), or Eared Grebe (*D. nigricollis*), or both. **Kitch'-i-shin'-gi-bis**, big diver.

125. LOON. *Colymbus torquatus.* **Mang**, brave. This is almost the only word of one syllable in the Chippewa language. In English, to call a person a loon is not very complimentary, but the Indians use loon-hearted just as we do lion-hearted, to denote extreme bravery. In the fall, when the colors get dull, the name **A'-shi-mang** is given, meaning false Loon.

126. THICK-BILLED GREBE. *Podilymbus podiceps.* **Shin'-gi-bis**, deformed.

We may close these notes by giving one of the Indian stories by which they account for this name as applied to the Grebes.

Once on a time the Great Spirit looked down on all the beasts and birds and saw that their lives were one dull round of monotonous toil. So he told them to assemble at a certain place and he would teach them many beautiful games. He built an immense wigwam, and at the appointed time all were there except the Grebe. He made fun of the whole matter, and said he knew tricks enough already. While the Great Spirit was instructing the assemblage, the Grebe danced in derision before the door, and finally, emboldened by the forbearance of his master, ran into the room, and by dancing on the fire, put it out and filled the wigwam with smoke. Then the patience of the Great Spirit could stand it no longer, and giving the Grebe a kick, he exclaimed, "Deformed shalt thou go through this world for the rest of thy days!" The imperial foot struck him just at the base of the tail. It knocked the body forward, but the legs remained behind, and the Grebe has ever since had the legs set so far back on the body that it cannot walk.

ON A NEW GULL FROM ALASKA.

BY H. W. HENSHAW.

IN a series of Gulls collected by Mr. E. W. Nelson in Alaska I find a specimen which differs decidedly not only from any other taken by that gentleman but from any in the National Museum collection. Believing it to be new I name and describe it as follows:—

Larus nelsoni, sp. nov.

♂, *adult, breeding plumage* (No. 97253, Coll. Nat. Mus., St. Michael's Alaska, June 20, 1880. E. W. Nelson, collector): Bill robust, relatively, short; upper mandible slightly convex; lower mandible with moderate angle. First primary longest. Tarsus a little shorter than middle toe and claw. Head, neck, tail, and entire under parts snowy white; mantle pale pearl-blue, lighter than in *glaucescens*, about as in *leucopterus* and *kumlieni*. Primaries: on the *first*, the inner web (except along the shaft) and tip (for three inches) is pure white; outer web, dark slate-gray, except at tip, the slate extending slightly farther in an acute angle to shaft on this than on the inner web. Inner web along the shaft, a lighter shade of the same, fading into white on both webs as the base is approached. The *second* has the slate almost wholly confined to the outer web, upon which it begins two inches from the tip, where it intrudes upon the inner web in the shape of a small spot, and extends upwards along the shaft for 2.25 inches, then makes an acute angle with the shaft and extends 1.50 inches farther on outer margin. On the *third* the slate extends from about 4 inches from the tip nearly to the end, slightly washing the inner web at its extremity. On the *fourth* the slate is paler, and begins on the outer web about one inch from the tip and reaches an inch, then makes an acute angle with the shaft and extends rather more than an inch; there is a slight trace of this color on the inner web near the tip. On the *fifth*, the slate begins .25 of an inch from tip, extends .50 of an inch along the web, then makes an acute angle with the shaft for one inch. The slate on the inner web is limited to the margin, where it forms a small bar-like spot. The *sixth* is white at the tip, fading gradually into bluish gray. The tips of the secondaries and tertiaries are pure white for an inch and a half or more from the tip, making a strongly defined wing-band. Bill yellow, with a vermilion spot at the angle of the lower mandible.

Dimensions. Wing, 17.25; tail, 8.90; culmen, 2.20; bill from nostril, 1.00; bill from gape, 3.00; height at anterior end of nostril, .86; tarsus, 3.00; middle toe and claw, 2.90.

Habitat: Alaska (St. Michael's).

For the sake of comparison I append measurements of *L. kumlieni* The first set are as given by Mr. Brewster (Bull. N. O. C., Oct. 1883, p. 217); the second are taken by myself from a specimen (♂ ad.) collected by Mr. Kumlien in Cumberland Sound; (1) Wing, 16.25; culmen, 1.75; bill from nostril, .85; bill from gape, 2.60; height at anterior end of nostril, .65; tarsus, 2.35; middle toe and claw, 2.27.—(2) Wing, 16.10; tail, 7.20; culmen, 1.80; bill from anterior end of nostril, .83; bill from gape, 2.66; height at anterior end of nostril, .68.

It is evident at a glance that this Gull is a close ally of *L. kumlieni*, which bird indeed it may represent upon the N. W. Pacific coast. The main point of distinction is size, *nelsoni* being considerably larger. The pattern of primaries is essentially the same, though the barred appearance of the primaries, which is conspicuous in the specimen of *kumlieni*, referred to above as collected by Kumlien, is not so marked. The slate-gray of the primaries is also very much darker than in *kumlieni*. *Nelsoni* is at once distinguished from *glaucescens* by its lighter mantle, as well as by its patterned primaries. Its resemblance to *glaucus* is much closer, the two being of about the same size, and the color of the mantle is also about the same. In both *glaucus* and *glaucescens* the primaries are concolor with the mantle, while in both *nelsoni* and *kumlieni* the primaries exhibit a distinct pattern. The relations of the two last seem, in fact, to be very similar to those of *glaucus* and *glaucescens*, and to those said to be borne by *leucopterus* and *glaucopterus*. Though bearing a superficial resemblance to *glaucescens*, *nelsoni* is, perhaps, nearer *L. argentatus*, the larger race of which it resembles in size and in the color of the mantle. From *argentatus*, however, it differs in having the pattern of the primaries brownish gray instead of black. The colored spaces of the primaries are confined mainly to the outer webs, while in ***argentatus*** the black involves much of the inner webs.

Mr. Brewster appears to be somewhat in doubt as to the relation of Bruch's ***chalcopterus*** to his ***kumlieni***, and thinks they may possibly be the same bird. My own opinion is that Bruch's ***chalcopterus*** is practically indeterminable, his diagnosis being insufficient to be applied with certainty to any species of a family like the Gulls, where the range of individual variation is so great, and the resemblances so close, as they are between the large, light primaried species of the Far North. Whatever may be the relation of Brewster's ***kumlieni*** to the ***chalcopterus*** of Bruch, the latter name cannot apply to the ***L. nelsoni.*** Bruch's statement that the ***chalcopterus*** is "wholly similar to the preceding [*L. leucopterus*] except in the primaries," puts ***nelsoni*** out of the question because of its large size.

I dedicate the species to Mr. E. W. Nelson, as a slight recognition of his valuable services to Alaskan ornithology.

NOTE ON *ASTUR ATRICAPILLUS STRIATULUS.*

BY ROBERT RIDGWAY.

I AM sorry to have to state that ***Astur atricapillus henshawi***, described by Mr. Nelson in the April number of 'The Auk,' is essentially the same as my ***A. atricapillus striatulus*** (***A. atricapillus*** var. ***striatulus***, Hist. N. Am. B., III, 1874, pp. 238, 239), and that according to the rules of zoölogical nomenclature the later name becomes a synonym of the earlier. ***A. atricapillus striatulus*** included both the dark western race, to which the name ***henshawi*** was very properly restricted by Mr. Nelson, and also a special plumage of true ***A. atricapillus;*** but reference to the original description (l. c.) shows that three of the four specimens described, and therefore virtually the types, are of the dark western race. It is true that the name ***striatulus*** was suggested by the very fine pencillings of the under parts which characterize a particular phase of plumage in the adult of ***A. atricapillus*** proper, and also that the name is somewhat inappropriate when applied exclusively to the form under consideration; but a proper regard for the rules which tend most to the stability of nomenclature will not admit of a name being discarded on account of inappropriateness.

It is due Mr. Nelson to state that he bestowed the name ***henshawi*** under the impression, which I at the time shared with him, that a new title was necessary; in fact, I had myself transferred ***striatulus*** to the list of synonyms of *atricapillus*.

ON THE POSSIBLE SPECIFIC IDENTITY OF *BUTEO COOPERI* CASS. WITH *B. HARLANI* (AUD.).

BY ROBERT RIDGWAY.

THE type of *Buteo cooperi* Cass. was obtained by Dr. J. G. Cooper at Santa Clara California, in November, 1855, and the supposed new species described by Mr. Cassin in October of the following year (Proc. Philad. Acad. Sci., VIII, Oct. 1856, p. 253). Since that time but one additional specimen has been taken, the one in question having been procured in Colorado, by Mr. C. E. Aiken, to whose courtesy I am indebted for the opportunity of examining it. A description of this specimen, with measurements, was prepared and sent, in 1875, to the 'American Naturalist' for publication, but I am informed never reached its destination, having probably been lost in the mails. The specimen was returned soon afterward, and I am therefore without memoranda respecting it, except measurements, which fortunately were preserved.* According to my recollection, however, the Colorado specimen agreed pretty closely with the type, except in the color of the primaries, which were marked much like those of *B. borealis* and *B. harlani;* that is, instead of being uniform hoary grayish on the outer webs, they were more brownish, and distinctly marked with dusky quadrate spots. Both specimens differ conspicuously from any plumage of *B. borealis* in having the head streaked with dusky on a white ground, the tawny or rufous edgings always seen in *B. borealis* being wholly absent. The measurements are as follows: —

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*I am informed by Mr. Henshaw that this specimen is still, or was recently, in Mr Aiken's possession.

	Wing.	*Tail.*	*Culmen.*	*Tarsus.*	*Middle toe.*	
Colorado specimen	16.50	9.50	1.10	3.25	1.80	Tars. meas. in front
Type of *B. cooperi*	15.75	9.10	1.05	3.15	1.70	" "
B. harlani, No. 6851	15.65	9.00	1.00	2.80	1.60	" "

It will thus be seen that the two specimens of '*B. cooperi*' differ more from one another than one of them does from a typical *B. harlani*. In fact, so far as the measurements are concerned, the extremes as given above * would easily fall within the range of individual and sexual variation in *B. borealis*, or any other species of equal size. The only character of coloration in the type of *B. cooperi* which cannot readily be reconciled with the theory of this supposed species being the light-colored phase of *B. harlani*, is the nearly uniform decided glaucous-gray hue of the primaries, which are almost without a trace of the dark spots seen in all specimens of *B. harlani* that I have examined, and also in *B. borealis*. But since the Colorado specimen (if my memory is not at fault) had, as stated above, the primaries differently marked, or brownish gray with distinct black spotting, just as in *B. harlani*, we may reasonably conclude that the type specimen of *B. cooperi* presents an abnormal or at least unusual coloration of these feathers.

THE SHORE LARKS OF THE UNITED STATES AND ADJACENT TERRITORY.

BY H. W. HENSHAW.

OF all our birds there are probably none that have given rise to so much perplexity and been the occasion of so great confusion as the Horned Larks. Occurring as they do, either as migrants or as summer residents, over almost every portion of our territory, they necessarily have received frequent mention at the hands of authors and have, indeed, figured in almost every local bird list that has appeared. It needs but a glance at them to reveal the extreme uncertainty that has always attended their identification, uncertainty almost as marked in the notices of experts as of authors of less scientific pretensions. It has long been evident to those who have paid any attention to these birds that the present arrangement fails to meet the necessities of the case, and that either a number of new forms must be recognized or else that the characters of the forms already described must be extended so as to cover the peculiarities presented by a large number of specimens which by anything like a literal interpretation of published diagnoses cannot be assigned at all. In other words, it is clear that the existing arrangemênt does not permit the facts of geographical variation, of which this bird is a most conspicuous illustration, to be recognized and expressed. Of the two alternatives, the former appears to the writer to be the logical and proper course.

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* Except the length of the tarsus, in which there is a discrepancy that it is difficult to account for.

The causes for the extreme variation witnessed in this species are not far to seek. Like several other birds, notably the Song Sparrow, which split up into a number of geographical races, the Shore Larks are to a great extent resident wherever they occur, and, although individually they are by no means local, but wander far and wide for a considerable portion of the year, their movements do not carry them far enough, or last sufficiently long, to subject them to any considerable changes of food or climate. As the result of being subjected to practically permanent conditions, or owing to the possession of an unusually plastic organization, the Horned Lark varies with locality to an extent unprecedented among our birds, even the Song Sparrow, hitherto supposed to illustrate the extreme degree of susceptibility to geographical changes, falling behind in this particular.

Although not, strictly speaking, migratory, the extent to which the Horned Larks change locality is sufficient to materially complicate the geographical relations of the several forms. Over much of the west coast, and in almost all the southern part of the United States, these birds can scarcely be said to migrate at all, although they may, and doubtless frequently do, wander in winter from the localities which form their abode the greater part of the year. In the more northern parts of the United States, and especially in the territory to the north of the boundary—in British America, Alaska, etc. —the bird partakes more of the character of a true migrant, and every fall and winter witnesses the intrusion from the north into our territory of hordes of these birds. How far south these northern birds penetrate is at present not determinable with accuracy. Judging from specimens at hand the 37th parallel marks about the southern limit. From the intrusion of these northern-born birds into regions where the summer residents only partially migrate, or do not migrate at all, there results a mixing up of the geographical races which is very puzzling. As an instance in point, the writer may mention that at Carson, Nevada, in November, he found two quite dissimilar forms, neither of which represents the bird found at that locality in summer.

The movements of the Shore Larks appear to be chiefly latitudinal, but they also wander to greater or less distances east or west of their true homes. How extensive these longitudinal movements are is not readily determined. The peculiarities of one of the two forms found at Carson in November, as stated, seem to show conclusively that it came from the region to the westward, probably from across the mountains. If this supposition be correct, it would show that, in this instance at least, a very considerable lateral movement had been made in search of suitable food and climate. In itself this is not surprising, for the Oregon Snowbird (*Junco oregonus*) is known to occur abundantly in Colorado and Texas, as well as over the intermediate region, though it has not been ascertained to breed further east than the Sierras, more than 600 miles to the west. However, at present there is too little known of the boundaries of the several races of Shore Larks to enable any statements of value to be made concerning the extent of their longitudinal movements.

As the result of the accumulation of many years, the National Museum possesses a large series of these interesting birds, collected in almost every portion of the country. Large as it is, however, the material proved by no means sufficient for the complete elucidation of the several races of this bird. The great difficulty to a proper understanding of the mutual relation of the forms in the past has been not so much the lack of a sufficient number of specimens as a lack of specimens from the various localities collected in the breeding season. From what has been said before as to the manner in which the races mingle geographically for a portion of the year, it will be readily understood how extremely unsatisfactory would be results which are dependent in any considerable degree upon a study of winter specimens. In addition, therefore, to the material contained in the Smithsonian collection and in my own private cabinet, the writer found it necessary to call upon friends in various parts of the United States, who have responded most generously to his request for specimens. The aggregate material he has thus been enabled to consult in the preparation of the present paper is believed to be greater than has ever before been brought together, at least in this country. No fewer than 350 specimens are now before him, representing the birds geographically so thoroughly that no area of any considerable size within the United States is believed to be unrepresented.

Before proceeding to formally diagnose the accepted forms, it may be well to briefly mention each race in relation to the area it occupies.

1. **Alpestris.**— The first question that presents itself is the relation of the Shore Lark of Northeastern North America to its European congener. Small as is the series of European birds at the writer's present disposition, it is large enough to show that the differences between the bird inhabiting the northern portions of Europe and the bird of Hudson's Bay, Labrador, and Newfoundland are not sufficient to separate them even varietally. This is in accordance with the conclusions of Ridgway, Coues, and others. Specimens of European origin can be selected that are practically indistinguishable from our birds and that differ less from individual examples of the latter than these do from others bred in the same locality, between which, of course, the differences are purely individual. The bird from Northeastern America may, therefore, be considered identical with the *O. alpestris* of the Old World. It would be extremely interesting to carry the comparison further, and to ascertain the relations borne by the several races of the Horned Lark of this country to the varieties into which the Old World bird is divided. A single specimen from southern Russia differs markedly from the *O. alpestris* of Northern Europe. It evidently represents a very large and extremely pale race, carrying the peculiarities of size and pallid coloration even further than does our *leucolæma.*

The number of species that have been described by European ornithologists from time to time suggests that the susceptibility of the Old World bird to changes of size and color corresponding to changes of environment is as great as in this country, and that the question of their relationship is not less intricate than with us. Unfortunately the Old World skins at hand are too few to afford opportunity for discussion in the present connection.

2. **Praticola.**—The first indications of a departure from the type of true *alpestris* are to be noticed in the region to the south and west of the Great Lakes, especially in Illinois. The birds of this region are to be distinguished as a race from *alpestris* proper by smaller size and by paler colors. Specimens in the breeding plumage are at hand from Minnesota, Wisconsin, Michigan, New York, Illinois, Indiana, Missouri, and Eastern Kansas. Those from Michigan are paler than any of the others and suggest an approach to the *leucolæma* type.

In connection with this race, it is of interest to note that it appears to be gradually extending its range and to be encroaching on a territory which by reason of recent deforestation has been made to approach the conditions this prairie-loving species seeks. Thus Dr. C. H. Merriam writes that it has made its appearance in Lewis County, New York, within a very few years, and appears to be gradually gaining a foothold there. The number of specimens of this form before me is very large, and while they show it to be a well marked race, especially when extremes of either form are compared, they also prove that on the one hand it intergrades with *alpestris* and on the other with *leucolæma*, according as the respective regions inhabited by these forms are approached. Certain specimens also from Kansas more than hint that, as we go westward, it passes into *arenicola* of the plains. A winter specimen of this form from Texas indicates the extent of its dispersion at that season.

3. **Leucolæma.**—This form is characterized by large size, it being larger even than *alpestris*, and by pale colors. It never has any decided yellow on the throat, though the latter and superorbital line is not rarely tinged with this color. It has been supposed to breed along our northern frontier in Montana, etc., and Colorado even has been assigned as its summer habitat. So far as specimens at hand show, however, it does not spend the summer anywhere within our frontier, all of the summer specimens

from Montana, Dakota, and Colorado, which have been called *leucolæma*, being referrable to the next form. The only region where the specimens at hand absolutely prove that it breeds is Alaska, where it was taken by both Mr. Nelson and Mr. Turner. Without doubt, however, it inhabits, in summer, much of the interior of British America, for in early fall and in winter it occurs all along the line of our northern frontier, from the eastern slope of the Sierras (apparently not crossing the mountains) to Eastern Dakota. It is, in fact, a form of the interior plains of high latitude. How far south it goes in winter cannot now be stated. I found it to be abundant at Carson, Nevada, in November. Specimens attest its occurrence at that season in Utah, Colorado, and in Kansas.

4. **Arenicola.**—As compared with *leucolæma*, its nearest ally, it is smaller and, while nearly as pale, always shows considerable yellow on the throat. *Leucolæma* appears to be even paler in fall than in summer; the reverse is true of the present form, as indeed of all the others which have the yellow on the throat and about the head more diffused. This form inhabits the Great Interior Basin, extending from the eastern border of the plains to the Sierra Nevada, and from somewhere about the line of our northern border to Mexico. Specimens are at hand from all portions of the area mentioned, and they are found to present essentially the same characteristics. Specimens from Montana, Dakota, etc., are somewhat larger than those from farther south, in Arizona and New Mexico. Those from the last-named sections are also brighter and display a rufous cast of coloration which, in some individuals, approaches true *chrysolæma* of Mexico. This is simply what is to be expected. Towards the north *arenicola* grades into *leucolæma*, and in the south into *chrysolæma*. There are no summer specimens from localities within our territory farther south than Santa Fé; and it is probable that summer residents in the extreme south of Arizona and New Mexico would be found to be referrable to *chrysolæma*.

The *O. occidentalis* of McCall has usually been cited by authors as applying to this interior form. There seems to me, however, to be more than a reasonable doubt as to the bird McCall actually had in hand. He says (Proc. Phila. Acad., 1851, p. 218): "The chief difference between this bird [*i.e.*, his *occidentalis*] and the young of the Shore Lark, is in the different dimensions, *and in the whole of the under parts being whitish* [italics mine]; but more particularly in the length and shape of the bill, which is longer, more slender and rather more curved above than that of the Shore Lark, either young or old." The young of none of the Shore Larks are "wholly white beneath," and the fact that McCall makes a direct comparison between his specimen and a young Shore Lark renders it doubtful to my mind whether he did not have a young bird of some other species. In the uncertainty I prefer to rename this form. Baird's *occidentalis* from Salt Lake is referable to *leucolæma*, as his specimens show.

5. **Giraudi.**— That a form of Horned Lark should occur in Texas different from the one inhabiting the plains region of the interior is somewhat remarkable; yet such is certainly the case. The race is characterized by smaller size than *arenicola;* the yellow of the throat is much deeper, and in a very large proportion of the males the yellow overspreads the upper part of the breast. The general color above is of a peculiar grayish cast, not easily characterized on paper, but sufficiently peculiar to render identification of the form easy upon comparison. The bird is, perhaps, confined to the eastern and southeastern portions of the state, though its range is at present not well known.

There is no doubt but that this form is the *Alauda minor* of Giraud, as I ascertain by an inspection of his type specimen. Dr. Stejneger calls my attention to the fact that this name is preoccupied by the *Alauda minor* of Gmelin of 1788, as applied to the *Anthus pratensis;* hence, unfortunately it is not eligible for use in this connection. As Giraud was the discoverer and describer of the bird, I have applied his name to it, as in some sort a measure of justice to one who in times past has been dealt with rather hardly by American writers.

6. **Chrysolæma.**— This name has been indiscriminately applied in turn to the Horned Larks of almost every portion of our western territory, more particularly to those of California; true *chrysolæma* is, so far as now known, limited to Mexico, where it appears to be a constant resident. It is considerably smaller than *arenicola*, but is about the same size as *giraudi.* It presents a combination of bright colors and rufous tints that serve to distinguish it. The yellow of the throat is much deeper than in any other form.

8. **Rubeus.**— Reaching California a new form presents itself. For this the name *rubeus* has been selected, as the deep 'sorrel'

or rufous color is the character that chiefly distinguishes this form from the foregoing. Its small size is also noticeable, it being the smallest of any of our forms. In a considerable number of specimens from the interior of the state the back, with the exception of some black streaks just above the rump, is entirely rufous. Examples from about San Francisco, Santa Barbara, and San Diego are of a lighter shade of rufous, but all appear to be distinguished from the preceding form. In casting about for a name for the California race I expected to be able to apply the *Alauda rufa* of Audubon. The supposed type of Audubon's plate and description is now before me, and it agrees perfectly with the California form; no locality, however, is given on the label. In the account of his *rufa* Audubon states its habitat to be the whole of the interior of the United States and Mexico. Aside, however, from any doubt attaching to the locality of the specimen, and of its being Audubon's type, the name is preoccupied by the *Alauda rufa* of Gmelin of 1788, as applied to *Anthus ludovicianus*; hence there is no alternative but to propose a new name.

9. **Strigata.**— The remaining form within our territory is the variety *strigata*, which is, perhaps, the most strongly marked of any of the forms mentioned. It is slightly larger than the Californian bird, as would be expected from its more northern habitat, which is the extreme Northwestern United States — the neighborhood of Puget Sound, Washington Territory, and southwards into Oregon. As in this region the rainfall is greater than in any other portion of the United States, it naturally follows that from here would come the darkest colored Horned Larks. Such is the case, and its deep coloration and the conspicuously striped dorsum constitute the essential characters of this race.

To those who have never attempted the identification of any considerable number of Horned Larks, or who are familiar only with specimens from a single restricted locality, it may appear that the number of forms suggested by the above arrangement is excessive, and that in handling the subject an unnecessary degree of refinement has been practiced. This, however, is believed to be not the case. Certainly by predilection the writer is committed to the recognition of as few varieties as the most conservative could desire. Between predilection and practice, however, there must, in such cases as the present, be a wide divergence.

If one would be consistently conservative and refrain from swelling our bird lists with new names, it is absolutely necessary to refrain from the study of specimens. The widely differing climatological and topographical conditions prevailing within our territory are reflected in the great variety of animal forms. It is absolutely necessary to a proper understanding of the subject that these forms, whether properly ranking as species or only as varieties — incipient species — should be studied and the method and amount of their variations recorded. Notwithstanding that the professional book-maker, to whom the constantly changing and swelling bird lists are a nuisance, may call a halt, the work of elucidating these forms and formally cataloguing them must go on till all the facts of geographical variation are fully set forth. The practical necessities to be met in the case of the Horned Larks are the establishment of a sufficient number of geographical races to serve for the reception of specimens, due care being exercised to recognize by name no form not sufficiently differentiated to be capable of clear definition; added to which is the requirement that every form recognized shall be known to inhabit a definite geographical area. Of course it is not pretended that by the acceptance of the above forms the identification of every specimen of *Otocorys* taken within the limits of the area treated of becomes at once easy and certain. To suppose this, one must know little indeed of the manner in which species and varieties vary according as they approach and recede from the central points where they are most strongly marked.

On the contrary, in the case of the Horned Larks, one must expect to find in any considerable collection a number of specimens to assign which to their proper forms becomes a matter of nice judgment and of thorough understanding of the subject. It is believed, however, that by the above arrangement the Horned Larks can be treated as satisfactorily as any other variable species; certainly as easily as the Song Sparrows. Due allowance must of course be made for individual variation and for the occurrence of intermediate specimens — those reared in localities between the centres of two forms, and hence showing in varying degree the characters of either race. Very rarely indeed will specimens be found that display the characters of two forms so equally that it is impossible to decide to which form they most incline. By far the larger proportion of specimens are well within one side or the other of the line. Below are appended brief comparative diagnoses of the above-mentioned forms, together with descriptions of such of them as have received new names.

It may be premised that it has been found very difficult to give in a few set words the differences of coloration that actually exist between the several races. The only satisfactory way of identifying birds so closely related as the Horned Larks is by a direct comparison of specimens.

COMPARATIVE DIAGNOSES.*

O. alpestris.—Size large; wing, 4.44; tail, 3.02; bill, .91; tarsus, .50. (Average of 19 males.) Nape, lesser wing-coverts, rump, etc., deep vinaceous. Habitat, Northeastern North America, Labrador, Greenland.

O. alpestris praticola.—Size smaller; wing, 4.17; tail, 2.93; bill, .83; tarsus, .46. (Average of 19 males.) Nape, lesser wing-coverts, rump, etc., pale vinaceous; back dead gray, in contrast; whole aspect generally paler than in true *alpestris.* Habitat, Upper Mississippi Valley and region of Great Lakes.

O. alpestris leucolæma.—Size about as in *alpestris*; wing, 4.39; tail, 2.96; bill, .89; tarsus, .49. (Average of 12 males.) Chief character, pallor; nape, lesser wing-coverts, rump, etc., very pale vinaceous; back gray in contrast. Throat white or with but faint trace of yellow. Colors are still paler in fall; occasionally at this season there is some yellow on the throat. Habitat, British America and Alaska; Western United States only in winter.

O. alpestris arenicola.—Size smaller than *leucolæma*; wing, 4.27; tail, 3.35; bill, .84; tarsus, .48. (Average of 16 males.) The colors similar to the last, but throat always decidedly yellow. Fall specimens are brighter, with more yellow on the throat and forehead. Habitat, Great Basin of United States and Rocky mountains.

O. alpestris giraudi.—Wing, 3.78; tail, 2.57; bill, .80; tarsus, .43. (Average of 9 males.) General color above brownish gray; streaks of back very indistinct; yellow of throat bright; breast unusually pale yellow. Habitat, Eastern and Southeastern Texas.

O. alpestris chrysolæma.—Wing, 3.98; tail, 2.91; bill, .83; tarsus, .46. (Average of 4 males.) Much deeper in color than *arenicola.* Nape, etc., deep pinkish rufous; throat deep yellow, but breast always white. Habitat, Mexico, possibly across the border into Southern Arizona and New Mexico.

O. alpestris rubeus.—Wing, 3.51; tail, 2.71; bill, .77; tarsus, .45. (Average of 11 males.) General color above, deep cinnamon or ferruginous; throat bright yellow; streaks on dorsum nearly obsolete. Habitat, California.

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* The color descriptions are based on males in breeding plumage.

O. alpestris strigata.— Wing, 3.99; tail, 2.75: bill, .76; tarsus, .44. (Average of 2 males.) Coloration above very dark; much less cinnamon than in either *rubeus* or *chrysolæma*; back distinctly striped with dusky: breast usually yellow. In some fall specimens the yellow overspreads the entire under parts. Habitat, coast region of Washington Territory and Oregon.

DESCRIPTIONS OF NEW RACES.

O. alpestris praticola, var. nov. PRAIRIE HORNED LARK.

SUBSP. CHAR.—*Adult ♂ in Spring* (No. 90763, Richland Co., Ill., May 16, 1883; R. Ridgway): Posterior portion of crown, occiput, nape, sides of neck and breast, lesser wing-coverts, and shorter upper tail-coverts, light vinaceous; back, scapulars, and rump, grayish brown, the feathers with darker centres, becoming darker and much more distinct on the rump; middle wing-coverts light vinaceous terminally, brownish gray basally. Wings (except as described) grayish brown, the feathers with paler edges; outer primary with outer web chiefly white. Middle pair of tail-feathers light brown (paler on edges), the central portion (longitudinally) much darker, approaching dusky; remaining tail-feathers uniform black, the outer pair with exterior web broadly edged with white. Longer upper tail-coverts light brown, edged with whitish, and marked with a broad lanceoiate streak of dusky. Forehead (for about .15 of an inch) yellowish white, this continued back in a broad superciliary stripe of nearly pure white; fore part of crown (for about .35 of an inch) deep black, continued laterally back to and including the ear-like tufts; lores, suborbital region, and broad patch on cheeks (with convex posterior outline) deep black; jugular crescent also deep black, this extending to the lower part of throat; chin and throat pale straw-yellow, gradually fading into white on sides of foreneck; anterior half of ear-coverts white, posterior half drab-gray, each portion forming a crescent-shaped patch. Lower parts posterior to the jugular crescent pure white, the sides of the breast light vinaceous, the sides similar but brown, and indistinctly streaked with darker. Upper mandible plumbeous-black, lower bluish plumbeous; iris deep brown; legs and feet brownish black. Wing 4.30, tail 2.85, culmen .47, tarsus .85.

Adult ♂ in winter (No. 95583, U. S. Nat. Mus., Gainesville, Texas, Feb. 12, 1884; G. H. Ragsdale): Similar to the spring plumage but darker, with the vinaceous somewhat obscured by grayish brown, the black by pale tips to the feathers, and yellow of throat slightly deeper. Wing, 4.20, tail, 3.00, culmen, .43, tarsus, .85.

Adult ♀ in spring (No. 90760, Richland Co., Ill., May 25, 1884; R. Ridgway): Above grayish brown, the pileum narrowly and distinctly, the dorsal region broadly and less sharply, streaked with dusky; nape, lesser wing-coverts, and shorter upper tail-coverts dull light vinaceous, the first very indistinctly streaked. A narrow frontlet and broad superciliary stripe (the latter very sharply defined above) dull white; lores, suborbital region, and triangular patch on cheeks, dull brownish black, without sharp definition posteriorly; auriculars drab. the anterior half lighter; chin and throat white, the former faintly tinged with yellowish; jugular crossed by a distinct band of black, narrower and less intense in color than in the ♂; rest of lower parts white, tinged with pale brownish on breast, the sides (especially of breast) pale isabella-brownish, the flanks indistinctly streaked with darker. Wing 3.85, tail 2.50, culmen, .45, tarsus, .80.

Adult ♀ in winter (No. 85417, Mt. Carmel, Illinois, Dec. 20, 1874; S. Turner): Differing from the summer plumage in being browner, and with the streaks on the pileum less distinct, the whitish frontlet obsolete, and the superciliary stripe less sharply defined; the lores, suborbital region, and cheeks dull brownish, like the auriculars, the latter with an indistinctly lighter central spot; chin and throat dull buffy white, with a tinge of straw-yellow, changing to clearer buffy white on sides of foreneck; jugulum with an indistinct blackish patch, the feathers broadly bordered with dull whitish. Whole breast and sides light isabella-color, indistinctly streaked with darker; abdomen and crissum white. Wing 3.75, tail, 2.45, culmen, .40, tarsus, .80

Young, first plumage (♂, No. 90761, May 29, and ♀, No. 90792, May 16, Richland Co., Illinois; R. Ridgway): Above brownish black, the wings brownish; back dotted with sharply defined deltoid and rhomboid specks of white; pileum with similar but much more minute markings, and rump also varied in the same manner but spots rather more transverse than on the back. Lesser and middle wing-coverts brownish black, broadly tipped with buffy white; greater coverts dusky, edged with isabella-brown, and narrowly tipped with pale buff; prevailing color of closed remiges isabella-brown, the tertials, however, darker brown, bordered with buff, this bordered internally with a dusky submargin. Lower parts dull white, the jugulum, sides of breast, and sides, dull isabella-buff, spotted or clouded with dusky.

Measurements: wing, 4.30; tail, 3.08; bill, .80; tarsus, .45 (largest of 16 ♂).

Measurements: wing, 4.10; tail, 2.80; bill, .78; tarsus, .45 (smallest of 16 ♂).

O. alpestris arenicola, var. nov. DESERT HORNED LARK.

Male: Crown, nape, rump, lesser wing-coverts, and sides of body pale vinaceous, feathers of middle back dark brown centrally, darker towards the rump, not however taking the form of distinct streaks. Exterior surface of wing near shoulder very pale cinnamon. A broad crescent of black from forehead to behind the eyes, bordered by white below. Malar and pectoral patch black. Below white; tail black, except the two middle feathers, which are dark brown edged with pale cinnamon; outer tail feathers edged with white. Throat pale yellow.

Female: General colors similar. Feathers of occiput dark brown, medially like the back; throat showing lines only of yellow.

Measurements: wing, 4.25; tail, 3.00; bill, .88; tarsus, .48 (largest of 7 ♂).

Measurements: wing, 4.00; tail, 2.90; bill, .85; tarsus, .47 (smallest of 7 ♂).

Otocorys alpestris giraudi, var. nov. TEXAN HORNED LARK.

SUBSP. CHAR. — Smaller than *O. alpestris praticola* (the wing not more than 3.90 inches in the ♂), and deeper colored; the forehead and superciliary stripe yellow, or tinged with yellow, and the breast (immediately beneath the black jugular collar) often, if not usually yellow. Female much paler and grayer, with more distinctly yellowish throat than in *praticola*.

Adult ♂ in Spring, No. 73706, Corpus Christi, Texas; G. B. Sennett): Posterior half of crown, occiput, nape, sides of neck and breast, lesser and middle wing-coverts, and upper tail-coverts, grayish vinaceous; back, scapulars, and rump dull brownish gray, the back very obsoletely, the upper part of the rump distinctly, streaked with darker. A narrow frontal band (about. 12 of an inch wide) continued back in a distinct superciliary stripe; chin, throat, and malar region, primrose-yellow; a broad patch on fore part of the crown (about .35 of an inch wide), ear-tufts, lores, oblique patch beneath the eyes, and jugular patch, black; middle portion of auriculars pale primrose-yellow, the terminal portion grayish brown. Breast, except laterally, pale primrose-yellow, minutely and very indistinctly flecked with pale grayish brown; rest of lower parts white. Wing, 3.90, tail, 2.55, culmen, .42, tarsus, .80.

Adult ♀ in Spring (No. 73707, Brownsville, Texas, G. B. Sennett): Above light vinaceous-gray, everywhere distinctly streaked with dusky; forehead (indistinctly) dull whitish, this gradually passing into a rather well-defined buffy white superciliary stripe; malar region. chin and throat, primrose-yellow; lores and suborbital region dusky, mottled with pale buffy grayish; auriculars pale pinkish buff, darker terminally. Jugulum with a distinct transverse patch of brownish black, the feathers narrowly tipped with dull whitish. Lower parts white, the breast somewhat tinged with pale vinaceous (especially laterally) and marked with deltoid spots of pale vinaceous-gray. Wing, 3.55, tail, 2.30, culmen, .40, tarsus. .80.

Measurements: wing, 3.90; tail, 2.60; bill, .72; tarsus, .38 (largest of 8 ♂).

Measurements: wing, 3.57; tail, 2.50; bill, .82; tarsus, .40 (smallest of 8 ♂).

In a series of 17 specimens all from Texas, the characters of this form as given above are remarkably uniform. Of eleven adult males, only four are without yellow on the breast; in the same number it is very distinct, being almost as deep as the color of the throat, while in three it is paler, though distinctly indicated. In the coloration of the upper parts there is no variation worthy of note, except in the width of the yellow and black bands on the top of the head, which vary to a greater or less degree in all the races. Six adult females, in spring plumage, are all so nearly alike that the description given above would apply equally well to all of them.

O. alpestris rubeus, var. nov. RUDDY HORNED LARK.

SUBSP. CHAR.—*Adult* ♂ (Stockton, California, No. 76599. L. Belding): Occiput, hind neck, rump, upper surface of wings, and sides of body deep cinnamon or ferruginous; feathers of back grayish brown, not taking the form of distinct streaks. Superciliary stripe pale yellow. Belly and under tail-coverts white; throat bright primrose-yellow. Sides of breast deep cinnamon, in strong contrast with the white. Crescent. malar and pectoral patches as in other forms. *Female* (No. 82413, Santa Rosalia Bay; L. Belding): Upper parts light grayish cinnamon, brighter on lesser wing-coverts and nape. Crown, back, and upper part of rump broadly streaked with dark brown. Superciliary stripe buff-yellow. Chin and throat clear buff-yellow. Jugular patch and patch on breast brownish black; rest of under parts dull white, tinged on sides of breast with light grayish cinnamon.

Measurements: wing, 4.10; tail, 2.95; bill, .80; tarsus, .42 (largest of 11 ♂).

Measurements: wing, 3.60; tail, 2.60; bill, .75; tarsus, .42 (smallest of 11 ♂).

O. alpestris strigata, var. nov. STREAKED HORNED LARK.

SUBSP. CHAR.—Most like *chrysolæma*, but differing in much darker and less cinnamomeous coloration above, with the back broadly and distinctly streaked with dusky; the lower parts either entirely yellow. or with the breast yellow (very rarely destitute of yellow).

Adult ♂, *spring plumage* (No. 8734. U. S. Nat. Mus. Ft. Steilacoom, Puget Sound, April 15, 1856; Dr. Geo. Suckley, U. S. A.): Upper parts, in general, rather deep vinaceous, the back, scapulars, and rump, however, more grayish brown, very broadly and conspicuously streaked with brownish black. Lower parts pale yellow, or yellowish white. becoming nearly pure white on flanks and crissum. The usual black areas on head and jugulum. Wing, 3.80: tail. 2.60: culmen, .45; tarsus, .75.

Adult ♂, *in winter* (No. 80477, Yuba Co., California, February 1877; L. Belding): Similar to No. 8734. but upper parts more obscured by brownish (the dark streaks of dorsal region very heavy and distinct. however), and yellow of lower parts much deeper. the whole surface posterior to the jugular patch being light primrose-yellow. except the crissum. which is white; black jugular patch and that on fore part of crown slightly broken by very narrow pale yellowish tips to feathers. Wing. 4.00: tail, 2.80; culmen. .40: tarsus, .80.

Adult ♀, *in spring* (No. 8733. U. S. Nat. Mus. Ft. Steilacoom, March 20,1856; Dr. Geo. Suckley): Lesser wing-coverts bright cinnamon: middle wing-coverts and upper tail-coverts paler, more vinaceous cinnamon; rest of upper parts, including top of head, rather light fulvous-grayish, the pileum narrowly but very distinctly, the back, scapulars, and rump very broadly and sharply, streaked with brownish black; nape more inclining to vinaceous, and obsoletely streaked. Lower parts pale buffy yellow, relieved by a large and distinct jugular patch of black, slightly broken by narrow buffy tips to the feathers. On the fore part and sides of the crown the black streaks show a tendency to coalescence, thus strongly indicating the solid black area of the adult male; the black on lores and cheeks is also strongly indicated. Wing, 3.65; tail, 2.40; culmen, .45; tarsus, .80.

Adult ♀, *in winter* (Albany, Oregon, Jan. 22, 1881; Cab. H. W. Henshaw). Above more decidedly brownish, with the streaks more suffused; lesser wing-coverts much duller cinnamon. Lower parts (posterior to the black jugular patch) with only the breast yellow, this clouded with rather distinct spots (some of deltoid shape) of dull grayish olive, or drab. Wing, 3.60; tail, 2.40.

In connection with my study of the Shore Larks I should not forget to mention the assistance I have received from friends. My thanks are due to the following gentlemen who have kindly placed their series of Shore Larks at my disposal: Mr. William Brewster; Mr. Geo. B. Sennett; L. Belding; W. Bryant; C. F. Batchelder; H. K. Coale; T. S. Roberts. My especial thanks are due to Mr. Ridgway, whose advice and substantial assistance I have had throughout the preparation of the paper.

BICKNELL'S THRUSH.

BY REV. J. H. LANGILLE.

OFF the south-west end of Nova Scotia, opposite Yarmouth and Shelburn Counties, is a large number of islands — one for every day in the year, they say. On leaving the harbor of the city of Yarmouth, off to the westward and well out at sea, are Green Island and Garneet Rock. Then comes the Tusket Islands, many in number, and of varied size, form and appearance; some being partly cultivated, some wholly wooded and the outermost almost as smooth as a lawn; these last are called the Bald Tuskets. Farthest out at sea, and very nearly on an extended line between the two counties mentioned, are the Mud Islands and Seal Islands. These are almost entirely covered with a low growth of evergreens — black spruce and balsam fir. Except the Robin, the Song Sparrow, the Snowbird, and a few Redstarts and Winter Wrens, almost the only small land-birds breeding here are the Black-poll Warbler and Bicknell's Thrush —the last two being very abundant.

This Thrush (the Black-poll I have described) was wholly new to me. My attention was first arrested by its call or alarm note, which sounded like *cree-e-e-e-eep*, or *quee-a*, or *cree-e-e-ee*, on a rather fine, high key. It had some resemblance to the call of Wilson's Thrush, but was unmistakably different; and as Mr. Brewster has noted (Bull. N. O. Club, Vol. VIII, p. 12), is very particularly different from the sharp liquid *pip* or *peenk* of the typical Olive-back. The song, *Tsiderea*, *tsiderea*, *tsidirea*, sometimes *tsidirea*, *rea*, *tsiderea*, or some other modulation of the same theme, is similar in tone to that of Wilson's Thrush, but more slender and wirey, and therefore not nearly so musical and grand. In the solitude of its evergreen islands, however, this bird is by no means an inferior songster, the sibilant tones of its voice being finely relieved by certain more prolonged and liquid vibrations. A careful examination satisfied me that the bird was Bicknell's Thrush, lately identified in the Catskill and in the White Mountains, and named in honor of its discoverer. It was so abundant, and not particularly shy for a Thrush, that I had the most ample opportunity for the study of its habits; and several specimens were secured and retained. Next to its lesser size, in structural peculiarity, is its slender, depressed, and finely curved bill, compared with which that of the typical Olive-back seems thick and clumsy. While singing, which occurred throughout the day, but more especially in the evening twilight and early morning, the bird delighted to perch in the top of the evergreens, often on the very tip, where its bright, brown figure, with elevated head, was quite conspicuous. On the ground and in taking its food, its habits were precisely like those of other Thrushes.

To find the nest of this species was my great desideratum ; and though the bird was so numerous, it was by no means an easy task. Many an hour did I thread my way through almost impenetrable evergreen thickets before I could secure the much coveted prize. At last my search was rewarded by nests in considerable numbers, and all as nearly alike in location, structure, and materials, as it is possible for nests to be.

Placed a few feet from the ground, and against the trunk of an evergreen tree, it was composed externally of various kinds of mosses, including a few fine sticks, weed-stems and rootlets, and was lined with fine grasses well bleached; so that, outside, the nest was as green as a bunch of fresh moss, and the inside was light brown. The eggs, .87 × .63 of an inch, are light bluish-green, speckled wlth brown.

About the Mud and Seal Islands dense fogs prevail almost continually throughout the summer. This excessive moisture, so productive of mosses, causes the moss in the walls of the Thrushes' nests to grow; hence the nests of previous years, well protected from the weather by dense evergreens, become elegant moss-baskets finely ornamented within and without with living cryptogams. I saw a number such, which looked as if they had grown *in situ* on the trees.

Some 7 inches or a little less in length, Bicknell's Thrush, as above found, is uniform deep olive-brown above; the sides of the white under parts being ashy-gray, and the sides of the neck and the upper part of the breast but slightly tinged with buff; while the neck and breast-spots are not so large as in the typical *swainsoni*.

To my eye the bird does not appear so large as the other Thrushes, and the bill is unmistakably differentiated, both by its slenderness and by its delicately carved outline.

BIRDS OF THE LOWER URUGUAY.

BY WALTER B. BARROWS.

(*Continued from p. 113.*)

141. **Phalacrocorax brasilianus** (*Gm.*). CUERVO DEL AGUA (WATER CROW).—An abundant resident at Concepcion on all streams, large and small. Usually met with in pairs or small

parties at this place, while at Buenos Aires flocks of hundreds were frequently seen. It was not met with south of Azul. Of its breeding habits I learned nothing.

142. **Ardea cocoi** *Linn.* GARZA (HERON).—A rather common resident, but most abundant in winter. Probably breeds. Not met with on the pampas, where, however, it does occur in abundance at some seasons.

143. **Ardea egretta** *Gm.* GARZA BLANCA (WHITE HERON).—Abundant; resident; breeds. Seen at every point visited, even as far south as Carhué, where it was abundant early in April, the coldest season.

144. **Ardea candidissima** *Gm.* GARZA BLANCA CHICA (LITTLE WHITE HERON).—Less abundant than the preceding, but with the same distribution. Doubtless breeds at Concepcion.

145. **Ardea sibilatrix** *Temm.*—Not common; shy, and solitary. Seen only a few times, in November. Though much resembling the Night Heron, they were active by day, and when disturbed flew rapidly away from the streams and swamps towards the dry woods and sand-hills. Their flight is much quicker than that of any other Heron of my acquaintance.

146. **Butorides cyanurus** (*Vieill.*).—Abundant, but only in spring and summer, when it is so unsuspicious that you may frequently row past it in a boat at twenty-five feet distance without disturbing it in the least. I saw it only at Concepcion, where it undoubtedly breeds.

147. **Ardetta involucris** (*Vieill.*).—This tiny Heron, so similar to our own *A. exilis*, seems to be a rather common summer resident from Brazil almost or quite to Patagonia. Indeed it may remain the whole year round in the marshes of the pampas, for while I only met with it in summer at Concepcion I several times saw it at Carhué in April, long after winter had fairly set in. It is rarely seen, even where most abundant, and it was almost impossible to get a second sight at one which had been once started from the reeds. I did not succeed in finding its nest.

148. **Nycticorax gardeni** *Gm.*—Abundant; resident; probably breeds, but I did not meet with its nest. Precisely similar in all its habits to the same bird here.

149. **Ciconia maguari** (*Gm.*). CIGUEÑA (STORK).—A rather common resident at Concepcion; often seen standing statue-

like on some slight rise of ground in the distance, but only with the greatest care and under the most favorable circumstances is it possible to get within shot. Of its nesting habits nothing could be learned.

150. **Tantalus loculator** *Linn.*—Abundant in summer, commonly in flocks. While feeding they were very unsuspicious and in one case it was only after four shots and five deaths that the remainder of a flock of thirty took lazily to their wings and sought safer ground. During clear, hot days they were often seen to rise in spirals to an immense height and continue floating in circles for hours.

151. **Plegadis falcinellus** (*Linn.*).—The common name, *Bandurria*, of this abundant bird alludes to its custom of associating in large numbers, forming *bandadas* or flocks.

At Concepcion the birds are resident and during winter and spring I sometimes saw them in flocks of one or two thousand, often feeding amicably side by side with several species of Ducks, Plover, and Snipe.

152. **Theristicus melanopis** (*Gm.*). — A small flock was met with on the pampas between Olavarria and Azul, April 12, 1881. There were only twelve or fifteen birds in the flock and they allowed the diligence to pass within about one hundred yards without showing any uneasiness.

153. **Platalea ajaja** (*Linn.*). ESPAT'ULA (SPATULA).—Not very abundant. Seen usually singly or in pairs, and only in spring or autumn. A slightly wounded one which I kept in my room for a day or two seemed unable to walk without stooping forward, swaying the body from side to side, and striking the bill smartly on the floor. The most southern record which I have is Bahia Blanca, February 17, 1881, at which time a single pair was seen.

154. **Phœnicopterus ignipalliatus** (*Geoff. et d' Orb.*). FLAMENCO (FLAMINGO).—Seen only at Puan, March 27 to April 1, 1881. A flock of thirty or forty frequented a small, alkaline pond at that place during our stay, and their flesh formed a part of our regular fare.

155. **Chauna chavaria** (*Linn.*). CHAJÁ (the common cry of the bird).—This is the heaviest bird of the country, except the Ostrich, and its flesh is hardly inferior to that of the Turkey. It abounds in the marshes about Concepcion, and was met with on

the pampas to about fifty miles south of Buenos Aires. It is almost invariably found in pairs throughout the year.

In spite of its great weight (25 to 40 pounds) it rises quickly by vigorous flapping, and if there be a breeze soon rises in spirals like an Eagle and floats gracefully away. On the ground they walk with a deliberate gait, recalling that of a Turkey-cock, and they can swim well if forced to it, though they usually prefer to use their wings.

With regard to their breeding habits I could obtain little reliable information from the natives, but I believe they nest on the ground in marshes and lay white eggs.

One shot on December 11, 1880, was standing in the edge of tall grass on the border of a pool and did not see me until I fired. He flew upward a few yards and then fell, and on picking him up I found that he was ruptured across the abdomen so that the bowels protruded in a large mass, evidently the result of the sudden effort to rise.

156. **Chloëphaga magellanica** (*Gm.*). GANSO DE LA SIERRA (MOUNTAIN GOOSE).—Seen frequently at Carhué in April, but not elsewhere. Probably a second species (*C. poliocephala* Gray) was also seen, as the two species are usually found together, but we took none.

157. **Cygnus nigricollis** (*Gm.*). CISNE (SWAN).—This species was noted in the salt 'laguna' Epecum, at Carhué, and also at one or two other points on the pampas. I doubt if it ever occurs at Concepcion, though another species (*C. coscoroba*) sometimes does, if the reports of the natives are to be credited.

158. **Querquedula cyanoptera** (*Vieill.*). PATITO (LITTLE DUCK).—This name is likewise given to the other species of *Querquedula*, as well as to *Erismatura*. This is an abundant species in the streams of the southern pampas in winter, but is not found on the Uruguay, so far as I know.

159. **Querquedula brasiliensis** (*Gm.*).—This beautiful bird is rather abundant at Concepcion during the cold weather, and a few probably remain to breed, as I noticed a pair as late as December 24, 1880. Unlike most of the other Ducks, it was not often found in flocks, though occasionally a few would mingle in flocks of other species.

160. **Querquedula flavirostris** (*Vieill.*).—Only seen on the pampas, where it was one of the commoner Teal.

161. **Querquedula versicolor** (*Vieill.*). Patito (Little Duck). — Resident at Concepcion, where a few probably breed; but far less abundant in summer than in winter, when it is the commonest and tamest of all the Ducks found there. We found it abundant on the pampas wherever there was water.

162. **Dafila spinicauda** (*Vieill.*).—To this species I refer with some hesitation a *Dafila* which was quite abundant at Concepcion during June, 1880, and was afterwards met with several times on the pampas (Arroyo Pigué, March 23, 1881; Puan, March 28; Carhué, April 6). Unfortunately no skins were saved.

163. **Dafila bahamensis** (*Linn.*).—A single specimen was killed at Carhué, April 7, 1881.

164. **Mareca sibilatrix** *Poepp.*—First met with near Bahia Blanca in February, 1881, when a few were observed—all moulting. Two months later we found it abundant in all the streams and pools of the pampas near Puan and Carhué.

165. **Spatula platalea** (*Vieill.*).—Only met with on the pampas and in winter. In the salt lakelets of Puan and Carhué it was by far the most numerous of the Ducks, being often seen in flocks of one to two hundred.

166. **Metopiana peposaca** (*Vieill.*). Pato (Duck).—A Duck the size of the Mallard, and somewhat resembling it in color and flesh. Very abundant on the Uruguay in times of freshet and probably a few breed about Concepcion, as they certainly stay there all summer. It was met with in greater or less abundance at every point visited, and was usually found in flocks of from ten to fifty individuals.

167. **Erismatura dominica** (*Linn.*). Patito (Little Duck).—Abundant in the streams of the pampas, associated with *Podiceps rollandi*, Coots and Gallinules. Usually seen in small parties of three to six individuals, which rarely fly, always dive at the flash of a gun, and spend at least half their time, when undisturbed, under water.

168. **Columba picazuro** *Temm.* Paloma del monte (Wood Pigeon).—The largest and least common of the Pigeons observed. Sometimes seen singly, but more often in flocks of twenty-five to two hundred or more individuals. Seen only in woods in the vicinity of Concepcion. Most abundant in winter.

169. **Columba maculosa** *Temm.* Torcaz (Ring Dove).—A common resident at Concepcion, where it is found in large

flocks through the year. Many nests were found early in November, all placed in trees in dry woods, and only ten or fifteen feet from the ground.

Each nest contained a single white egg. Either the variation in size of the eggs of this species is very great, or else a few of the preceding species were breeding with them; for several eggs were found which were very much larger than the others. I failed, however, to detect a single specimen of *C. picazuro* among the birds which left the trees as we approached. This species was again met with at Carhué.

170. **Zenaida maculata** (*Vieill.*). PALOMA (DOVE).—Abundant everywhere in thinly wooded districts but not on the bare pampas. At Concepcion it was abundant throughout the year in small flocks, but I failed to discover its nest or eggs.

171. **Columbula picui** (*Temm.*) PALOMITA (LITTLE DOVE).—This tiny Dove was only met with in abundance in wooded regions, but appears to be gradually spreading over the pampas wherever man carries shrubs and trees. It nests fearlessly in the gardens at Concepcion, and even in the orange trees which border the public square, laying always two white eggs. I think two broods are often reared in a season, but not more. Yet I found occupied nests from November 17, until April 13. At the latter date many of the summer birds had gone north for the winter and the nights were becoming frosty. I found the nests most frequently, however, during January and February.

172. **Leptoptila chalcauchenia** *Scl. et Salv.* PALOMA (DOVE).—Only seen at Concepcion, where it is an abundant resident. It is almost constantly on the ground, singly or in pairs, never more than three or four together, and usually close to the border of some stream or marsh. When alarmed it takes to the thickets, but very soon seeks the ground, as if it could not endure to perch longer. Yet the only nest I found was placed among the matted branches of some bushes, about seven feet from the ground. The two white eggs were more nearly spherical than are eggs of any other Dove of my acquaintance. During flight the species is easily recognized by the rufous under-wings.

173. **Penelope obscura** *Wagl.* PAVO DEL MONTE (WOOD TURKEY).—Limited to the borders and islands of the river, where in heavy growths of timber it is not uncommon, though rarely seen. It has a very harsh, cackling cry, and is said

to build a bulky nest in trees and lay white, unspotted eggs. Its flesh is much esteemed, and the bird is easily domesticated.

174. **Rallus maculatus** *Bodd.*— The only specimen obtained was one which had died in captivity, but was supposed to have been taken near Concepcion. More probably it was brought down the river by boatmen from Paraguay or Brazil.

175. **Rallus antarcticus** *King.*— Rather common at Carhué early in April, where the only specimens were obtained. At Concepcion I several times started a bird much resembling this, and which I could not then name. It may have been this bird, or possibly the young of the following species.

176. **Rallus rythyrhynchus** *Vieill.*— Called *Gallineta chica*, or little Rail, at Concepcion, where all the Rails were called *Gallinetas*, though the word is only used properly to indicate the European Sandpiper (*Tringa hypoleuca*). This beautiful Rail—about the size of the Virginia Rail—is the most abundant bird of its family at Concepcion, as well as on the pampas. Resident through the year, it seems to be equally abundant at all times, and often in mid-winter, while watching in the edge of the reeds for passing Ducks, I have had half a dozen of these restless, inquisitive little birds in sight at a time. The colors of bill and legs vary much according to the season. In breeding livery they are among the prettiest of the waders. Although I searched often and long for the nest, I found but one (Oct. 2, 1880), and did not actually catch the bird on that one. The eggs were but two, pure white, with a very few, small, brown spots. The nest was precisely like that of a Virginia Rail, and was placed in a tussock of grass in the middle of a half submerged swamp.

On the Pigué, where this bird was abundant, I shot one which lodged on some slender twigs just above the water. The blood trickling from its bill soon attracted some fish, and after one or two trials a large fish, like a catfish, jumped up nearly a foot and dragged the bird under before I could reach it.

177. **Aramides ypecaha** (*Vieill.*) GALLINETA GRANDE (BIG RAIL).— A noisy bird, as large as a hen, and with some other resemblances to that bird; for example, carrying the tail over the back, running some distance before using the wings, etc.

This is not a rare bird at Concepcion, but from its shyness, and the nature of its favorite ground, it is not an easy bird to secure.

It seems to be equally abundant summer and winter, and was usually found in pairs, which vanished into the depths of some bushy morass on the instant of discovery, and could not again be started. When surprised several rods from cover I have seen them fly well after running half the distance to the cover, but usually they trust entirely to their legs—and indeed they rarely wander far enough from the swamps to make their wings of much use to them. Of their breeding habits I learned nothing.

178. **Gallinula galeata** (*Licht.*). GALLINA DEL AGUA (WATER HEN.).—Abundant at Concepcion, where it is resident and breeds. On Sept. 29, 1880, I saw young following their mother, and two weeks later shot a female just ready to lay. Early in March they were moulting and unable to fly.

This species was abundant at the southernmost points visited, even in cold weather.

179. **Fulica armillata** *Vieill.* GALLINA DEL AGUA (WATER HEN).—Not uncommon at Concepcion during cold weather; much more abundant, however, further south.

180. **Fulica leucoptera** *Vieill.*—With the preceding species at Puan and Carhué in March and April, but not at Concepcion.

181. **Aramus scolopaceus** (*Gm.*). GALLINETA GRANDE (BIG RAIL).—An abundant resident in the neighborhood of Concepcion in all the marshes and on most of the small watercourses wherever impeded with rushes. They seem to feed almost exclusively on the large, fresh-water snail (*Ampullaria*), and the bills of many examined showed a perceptible lateral curve at the end, which I suppose is due to the constant wedging of the bill in the apertures of these shells.

The birds are by no means wary, but once started they are likely to fly half a mile or more before settling, unless there is good cover close at hand.

182. **Parra jacana** *Linn.* GALLINETA (RAIL).—Hardly to be called abundant at Concepcion, yet certainly not rare, one or more pairs breeding in almost every marsh where there was some clear water and floating vegetation. I never tired of watching them as they ran about apparently on the very surface of the water, clucking to each other and displaying the pea-green wings, cinnamon body, and yellow frontal shield at every short flight. I found no nests, but saw two young just able to fly on March 5, though I presume these may have been from a second nest.

183. **Vanellus cayennensis** (*Gm.*). TERO-TERO (their common note).—A beautiful bird, but too well known to need any description. Noisy, quarrelsome, always alert and suspicious, it is the bane of all water-fowl shooting in the marshes, and being itself unfit for the table the sportsman could doubly afford to spare its presence.

It nests at Concepcion often before the middle of August, though eggs may sometimes be found as late as December 1. The eggs are three or four in number, light buff, heavily spotted with deep brown and black, and resemble very closely the eggs of the European Lapwing, and, like these latter, are much sought for as delicacies for the table. We found this species abundant on the pampas in most places, but saw none at Carhué during our stay of ten days there.

(*To be concluded.*)

RECENT LITERATURE.

The British Museum Catalogue of Birds.—Two volumes* of this great work have appeared during the last year—Volume VII, by Mr. Sharpe, concluding the family Timeliidæ, and Volume VIII, by Dr. Gadow, treating of the Titmice, Shrikes, Tree-Creepers, and Nuthatches.

"The family *Timeliidæ*, an account of which was commenced in the preceding volume [Vol. VI], is here [Vol. VII] completed, with the enumeration and description of 687 species. Of these no less than 548 are contained in the collection of the British Museum. . . . Out of 163 genera described in the present volume only 14 are unrepresented in the British Museum." The species of this group are all, except one, inhabitants of the Old World, throughout which they are very generally distributed. They are subdivided into the following ten 'Groups,' namely, I, Thamnobiæ, with 24 genera and about 90 species;

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* Catalogue of the Birds in the British Museum. Volume VII. Catalogue of the Passeriformes, or Perching Birds. Cichlomorphæ: Part IV, containing the concluding portion of the Family Timeliidæ (Babbling Thrushes). By R. Bowdler Sharpe. London: Printed by order of the Trustees. 1883. 8vo, pp. i-xvi, 1-698, pll. i-xv, and numerous woodcuts in the text.

Volume VIII. Catalogue of the Passeriformes, or Perching Birds. Cichlomorphæ: containing the Families Paridæ and Laniidæ (Titmice and Shrikes), and Certhiomorphæ (Creepers and Nuthatches). By Hans Gadow, Ph.D. London: Printed by order of the Trustees. 1883. 8vo. pp. i-xiii, 1-386, pll. i-ix, and woodcuts in the text.

I, Bradypteri, with 19 genera and 47 species; III, Eremomelæ, with 11 enera and 46 species; IV, Cisticolæ, with 14 genera and about 93 pecies; V, Chamææ, with the single species, *Chamæa fasciata* of Western North America; VI, Henicuri, with 3 genera and 11 species; VII, Cratero-odes, with 39 genera and 192 species; VIII, Timeliæ, with 34 genera and 96 species; IX, Liotriches, with 17 genera and 56 species; and X, Accentores, with 2 genera and 16 species.

The 'family' Timeliidæ has been often characterized as the ornithological 'waste-basket'—the receptacle of numerous Passeriform birds whose obscure relationships prevent their satisfactory reference to other well-marked family groups, and which lack among themselves any great degree of coherence, or afford as a whole any satisfactorily diagnostic characters. Neither does the group, says Mr. Sharpe, in the present state of our knowledge of the species hitherto 'referred or allied to the typical Timeliidæ,' appear to be susceptible of division into 'well-defined or definable sub-families.' "Hence," he adds, "the views on their systematic arrangement are of necessity subject to frequent changes; and my own, with those of the author of the fifth volume of the present 'Catalogue' [Mr. Seebohm], have consequently undergone considerable modification since the commencement of the printing of the previous volume. I have been obliged to depart from the scheme of classification there proposed; and I have found besides, after a more lengthened study of these birds, that the family, as at present constituted, contains many forms which are not real *Timeliidæ.*" With this admission before us it would be ungracious to dwell upon the heterogeneity of the group, till we are able to offer some better scheme of arrangement. While many ornithologists may not agree with the author in his allocation of certain forms, none, we fancy, can feel otherwise than deeply grateful to him for the very useful monograph he has placed at their disposal.

Volume VIII treats of groups having a much wider geographical range than the 'Timeliidæ,' and embrace many American species. Before, however, passing to details, we will venture a few criticisms upon the character of the work in general, mainly apropos of the present volume, but equally applicable in many respects to all the volumes of the series. While recognizing that brevity of treatment is a necessity of the case in such a series of hand-books, it is to be regretted that in many cases the reader is left in the dark as to the reasons that have lead the authors to the conclusions they have adopted, even in cases where a very few additional lines would have been sufficient to set forth the much desired information. We have already adverted on other occasions, in reviewing volumes of this series, to the absence of generic diagnoses, and of comparisons of allied forms, beyond, in most cases, what may be drawn from the 'keys' to the genera and species. These, while proper enough in their way, and a great convenience — indeed indispensible as the work is constructed — fail by a long distance to supply these deficiencies. Again— and also as we have previously remarked — it is difficult to see what rule, if any, is adopted in distinguishing species from subspecies, or subspecies from 'races,' excepting in the case of Mr. Seebohm's volume. The fact of known or supposed intergradation or its absence, as regards subspecies, is rarely referred to, a subspecies being apparently, and sometimes avowedly relegated to that rank when, in the opinion of the author, it differs too little from another to take the rank of a 'species'; on the other hand, hitherto currently received species are thrown together, although known to present constant, and sometimes well-marked differences, unless the authors have themselves made discoveries which they do not deem it necessary to make known to their readers—and this, too, in cases where their material is but a tithe of what has passed under the eyes of authorities equally entitled to consideration who have published views directly the reverse of their own. It further sometimes happens that the off-hand statement is made that several specimens of a wide-ranging species in the series in the British Museum differ in certain ways from the rest of the series. It would at least satisfy curiosity in such cases if it were stated whether or not these aberrent specimens come from any particular locality or region. or whether the difference is purely individual. Antithetical comparisons as regards size and coloration of forms all too summarily disposed of would oftentimes be well worth the slight additional space such statements would require.

Dr. Gadow's volume opens with the Paridæ (including the Regulidæ *auct.*), of which 10 genera and 82 species are recognized, 48 of the latter being referred to the genus *Parus* alone. Of *Parus* thirteen synonyms are given, two of which (*Melanochlora* and *Lophophanes*), however, are recognized in a subgeneric series. Of a few species local races are recognized, of others, subspecies, and in several both local races and subspecies. Thus *Parus ater* has an 'English,' a 'Chinese,' and a 'Himalayan' race, and in addition three 'subspecies,' respectively from the Caucasus, Eastern Turkestan, and Southern Persia. To the North American *Parus atricapillus* is referred *P. carolinensis* as a subspecies, no other subspecies or races being recognized. 'Subspecies' *borealis* of *Parus palustris* is subdivided into 'Western' and 'Eastern' races. Our *Psaltripari* are referred to the Old World genus *Acredula; Auriparus* is referred to Cabanis's African genus *Anthoscopus*, which is here ranked as a subgenus of *Ægithalus*. *Panurus*, although included in the Paridæ, is said (p. 3) not to belong to the family, "but perhaps to the Fringillidæ." *Leptopœcile*, treated under Regulinæ, the author says "does certainly not belong to the Paridæ, but is most closely allied to *Phylloscopus*."

The Laniidæ embrace five subfamilies — Gymnorhininæ, Malaconotinæ, Pachycephalinæ, Laniinæ, and Vireoninæ. The species of the first three are all Old World; those of the last, American. *Lanius* (covering the genera *Fiscus*, *Enneoctonus*, *Phoneus*, *Otomela*, etc., of authors) includes 47 species and 3 subspecies, besides various 'races.' Our '*excubitoroides*' is unreservedly (and judiciously) referred to *L. ludovicianus*, while the problematical '*robustus*' is accorded specific rank. The Vireos are all referred to *Vireo*, but *Vireosylvia* and *Lanivireo* are recognized in a subgeneric sense. The other genera of the Vireonine group stand as usually treated; the principal changes in the group as a whole are the degredation of a few commonly recognized species to subspecies, and apparently on wholly reasonable grounds.

The family Certhiidæ includes the Nuthatches as well as the Tree-Creepers. To *Certhia familiaris* are referred unconditionally all the Tree-Creepers of Europe and North America, except *mexicana*, which ranks as a subspecies, with a range extending northward along the Pacific coast to Oregon. The birds from Vancouver Island are said to be 'like those from Canada,' yet in the list of specimens cited under 'β. *C. americana*' is one from 'Vancouver Island.' While *C. familiaris* extends eastward in the Old World to Japan, three other species of *Certhia* are recognized as occurring in the Himalayan region. *Sitta carolinensis aculeata* is referred to *S. carolinensis*, with the remark, "the difference between an eastern form (*S. carolinensis*) and a western variety (*S. aculeata*) is said to be that the western individuals have the bill slightly larger [*sic*], and that they have the greater wing coverts [*sic*] less black than the true *S. carolinensis*." And yet the author cites examples from the Rocky Mountains, California, and Mexico! *Sitta villosa* Verr. et auct., of Northern China, is made a subspecies of *Sitta canadensis!* It is said to be "scarcely specifically distinct from the widely ranging North American *S. canadensis*," although it lacks the 'black patch on the sides of the neck' present in *canadensis*, these parts being 'creamy whitish' in *villosa*. Is this case to be taken as a test of the author's idea of 'subspecies'? And if *Sitta carolinensis aculeata*, with its *slender* bill and indistinct black markings on the *inner secondaries* (not 'greater coverts,' which in both forms are clear ashy blue) is not to be recognized as a 'race,' what are we to infer is his standard for a 'race'?

In general, Dr. Gadow inclines to the recognition of comprehensive groups, from families downward. His reduction in genera and species from the hitherto current status is very marked. We believe the tendency to be a wholesome one, and that, in the main, his reductions are made with reason, but there are a few cases where we should hesitate strongly before accepting his rulings, as regards both genera and species. His subspecies are obviously what in this country we should consider as distinct though closely allied species, in most cases no intergradation being shown, while in some, from the nature (geographical) of the case, intergradation would be impossible. On the other hand, his 'races' correspond to what we should rank as subspecies. In other instances, geographical variation is pointed out, but the differentiated forms are not recognized in nomenclature, although apparently well-marked, being, in fact, forms which we should regard as subspecific and entitled to nomenclatural recognition. Perhaps, however, he here errs not more on the side of consolidation than we on this side of the water have been at times prone to do in the direction of undue subdivision.

In method of execution, the present volume is strictly in accord with its predecessors, and is neither less valuable nor less welcome.—J. A. A.

Coues's Key to North American Birds, Second Edition.* — The twelve years which have passed since the publication of the first edition of the 'Key' have been marked by unprecedented activity and progress in North American ornithology—sufficient, indeed, to render antiquated any text-book on our birds, however well up to date in the year 1872. In preparing the second edition of the 'Key,' the author has not only attempted to bring the work abreast of the present phase of the subject, but has taken the opportunity to remedy the defects of the first, and to greatly enlarge the scope of the work by the addition of much new material, covering branches of the subject wholly omitted in the old 'Key.' While in bulk the book seems scarcely larger than the one that has so long been a familiar and useful companion alike to the amateur and the professional ornithologist, it contains more than twice as many pages, and probably four times more matter, in consequence of the use of smaller type and thinner paper. Nearly 350 new illustrations have been added, a few of them replacing old ones now discarded. About fifty—drawn by Mr. Edwin Sheppard and engraved by Mr. H. H. Nichols—have been prepared expressly for the present edition, besides some thirty or more original anatomical drawings, made by Dr. R. W. Shufeldt, U. S. A., and many cuts borrowed from various duly accredited sources.

The work, as it now stands, is divided into four 'Parts,' as follows: 'Part I. Field Ornithology.' This is a reprint, with slight modifications and the addition of a few illustrations, of the author's well-known work of this title originally published in 1874. 'Part II. General Ornithology.' This is the introductory matter of the old 'Key' greatly amplified and with many new illustrations, but especially through the addition of nearly 100 pages of entirely new matter on the anatomy of birds. 'Part III. Systematic Synopsis of North American Birds.' This is the 'Systematic Synopsis' of the old 'Key' greatly augmented through much fuller treatment of the subject, the diagnoses of the various forms treated being much extended, and to which is added a concise epitome of the biography of each. 'Part IV. Systematic Synopsis of the Fossil Birds of North America.' This is the 'Appendix,' of the old 'Key' brought down to date. As before, it has been revised by Professor O. C. Marsh. The number of species and varieties of living birds now admitted is about 900; of fossil species, 46.

Part II, the author characterizes as "a sort of 'Closet Ornithology' as distinguished from a 'Field Ornithology'; being a treatise on the classification and structure of birds, explaining and defining the technical terms used in ornithology,—in short, teaching the principles of the science and illustrating their application." The section (pp. 65–81) devoted to 'Principles and Practice of Classification,' unfolds in a familiar way what classification is and its purposes, treating the subject from the modern standpoint of evolution, giving to beginners an easily comprehensible view of the details and general principles that underlie systematic classification. The section on the 'External Parts of Birds' (pp. 81–133) is not only rewritten, but greatly amplified.

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* Key to North American Birds. Containing a concise account of every species of living and fossil bird at present known from the Continent north of the Mexican and United States boundary, inclusive of Greenland. Second Edition, revised to date, and entirely rewritten: with which are incorporated General Ornithology: an outline of the structure and classification of birds, and Field Ornithology: a Manual of collecting, preparing, and preserving birds. By Elliott Coues, M. A., M. D., Ph. D., Member of the National Academy of Sciences, etc., etc. Profusely illustrated. Boston: Estes & Lauriat, 1884. Royal 8vo. pp. xxx + 863, 1 col. pl., and 563 woodcuts.

The 'Introduction to the Anatomy of Birds' (pp. 133–227,—entirely new—is too brief to set forth the matter at due length; it is addressed to beginners, and treats the subject of anatomy mainly from the standpoint of systematic ornithology. More special attention is therefore given to the skeleton, but the prominent features of the muscular, vascular, respiratory, digestive, urogenital, and nervous systems, and the special sense organs, are noticed at some length, some sixty pages being devoted to the structure of the soft parts, against about forty to the bones.

The nomenclature adopted in the 'General Synopsis' is strictly that of the second edition of the 'Coues Check List,' published in 1882. The authorities for the names adopted are, however, omitted, as are all bibliographical references. While space is thus saved for other matter, we are not sure the omission, viewed from the side of convenience, was wise. About a dozen more species and subspecies are included than are in the 'Check List'—mostly described since its publication—but their insertion is not allowed to disturb the numeration adopted in the 'Check List,' although some of the genera even are transposed. Two subspecies are here described for the first time, viz., *49a. Parus hudsonicus evura*, from 'Alaska,' and *262a, Junco hiemalis connectens*, from the 'Mts. of Colorado.'

A noteworthy feature of the work is the sketch of the history of North American ornithology (given in the 'Historical Preface,' pp. xi–xxvi), from its earliest beginnings down to about the year 1860. The history is happily divided into 'epochs' and 'periods,' and the work and impress of each prominent author who has written especially of North American birds is briefly adverted to and judicially weighed. The method of treatment admits of each author's share in the development of the science being thrown into sharp relief, the subject being handled with the author's usual felicity of expression.

The work as a whole represents a vast amount of labor, faithfully and carefully performed. The illustrations are for the most part excellent: the typography (the work is printed at the Cambridge 'University Press') is beyond praise: the general design and execution are tasteful to a high degree. If we were inclined to quarrel with the author it would be on minor points, and especially with his remarks about 'mummification' (p. 47), 'benzine,' 'tobacco leaves,' and baking bird skins (p. 57), all of which we have tried and seen tried to our utter disgust. These points we hope to refer to at greater length on some future occasion.—J. A. A.

Stearns's Notes on the Natural History of Labrador.[*] —These 'Notes' relate only in part to birds, which occupy pp. 116-123. A list of Mammals precedes the bird notes, which are followed by lists of fishes and plants. The list of birds numbers 111 species, and is briefly annotated. It is based on observations made "during a stay of twelve months on the coast in 1880-81, and also some additions made in the summer of 1882." A few are added on the authority of Dr. Coues's 'Notes on the Ornithology of Labrador,' published in 1861. Several of the records seem to require confirmation, particularly '*Hylocichla mustelina*' — the only *Hylocichla* given!—which was 'heard repeatedly' 'one day late in July'; and *Somateria v-nigrum*, reported as abundant in large flocks in spring."—J. A. A.

Belding on Birds found at Guaymas, Sonora, and in Lower California.— Mr. Belding gives a nominal list of 46 species observed at Guaymas,[†] 35 of which, it is stated, are "also represented on the opposite side of the Gulf, in Lower California, while five others are represented there by closely allied species or races."

This list is followed by a 'second catalogue'[‡] of birds collected at the southern extremity of Lower California. After stating some of the more prominent physical characteristics of the peninsula south of the parallel of 24° 30′, Mr. Belding gives three annotated lists of the birds of as many different localities, viz., '*a*. Birds of the [Victoria] Mountains,' numbering 41 species, and including *Merula confinis*, *Psaltriparus grindæ*, and *Junco bairdi* among the more noteworthy; '*b*. Birds of the Lowlands (vicinity of La Paz and southward),' numbering 15 species. This is followed by '*c*.' Species positively identified, but of which no specimens were preserved, occurring south of 24° 30′. These number 21, and consist mainly of water birds. The total number of additions to the list of Lower California birds is 52, raising the total number observed to date to 187 species.—J. A. A.

Ridgway on New Birds from Lower California.[§] — These are 1, *Lophophanes inornatus cineraceus*, which is "even more decidedly gray than the Middle Province form (*L. inornatus griseus*)"; 2. *Psaltriparus grindæ* Belding MS., and 3. *Junco bairdi* Belding MS., "most nearly related to *J. insularis* of Gaudaloupe Island."

Mr. Ridgway also reports[‖] the capture by Mr. Belding of an example of *Anthus cervinus* from Lower California, and gives its synonymy and characters. He also has a 'Note on *Merula confinis* (Baird),'* recording and describing two specimens taken by Mr. Belding at Laguna, Lower California, the species having hitherto rested on the original type specimen obtained by Xantus in 1860. These specimens show "not only quite constant but very pronounced" characters, so that there is now no reason "for denying it the specific rank to which it is clearly entitled."—J. A. A.

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[*] Notes on the Natural History of Labrador. By W. A. Stearns. Proc. U. S. Nat. Mus., 1883, pp. 112-137. Sept. 20, 1883.

[†] List of Birds found at Guaymas, Sonora, in December, 1882, and April, 1883. By L. Belding. Proc. U. S. Nat. Mus., 1883, pp. 343, 344. Dec. 27, 1883.

[‡] Second Catalogue of a Collection of Birds made near the Southern Extremity of Lower California. By L. Belding. (Edited by Robert Ridgway.) Proc. U. S. Nat. Mus., 1883, pp. 344-352. Dec. 27, 1883. (For notice of Mr. Belding's former papers on the birds of Lower California, see *antea*, p. 83.

[§] Descriptions of some New Birds from Lower California, collected by Mr. L. Belding. By Robert Ridgway. Proc. U. S. Nat. Mus., 1883, pp. 154-156. Oct 5, 1883.

[‖] Anthus cervinus (Pall.) in Lower California. By Robert Ridgway. Ibid., pp. 156,157. Oct. 5, 1883.

Cory's Birds of Haiti and San Domingo.†—Part I of Mr. Cory's work on the birds of Haiti and San Domingo appeared early in March, and consists of five colored plates and 40 quarto pages of text. Beginning with Turdidæ, 27 species are treated, carrying the work into the Tanagridæ, and including three of Mr. Cory's recently described species, namely, *Ligea palustris*,‡ *Hirundo sclateri*, and *Myiadestes montanus*. Each of these species is figured, as are also *Mimocichla ardesciaca* and *Spindalis multicolor*. A plate is also devoted to the nest and eggs of *Mimocichla ardesciaca*. Each species is fully described, and to the descriptions are added in some cases measurements of a considerable series of specimens. The synonymy and bibliographical references are reasonably full; the manner of occurrence of each species in the region under consideration is recounted, and some account is given of the breeding habits, nests and eggs of several of the resident species. The biographical notes are, however, fewer than we had hoped to see them. The plates are excellent as regards coloration and structural details, but are somewhat stiff and lacking in artistic finish. We also notice a few typographical errors in the technical names. The work, however, promises to be a very important contribution to our knowledge of the birds of a hitherto very imperfectly known region. Mr. Cory is certainly entitled to great credit for his enterprise in gathering the materials for his work and presenting them so acceptably.—J. A. A.

Minor Ornithological Publications.—'Forest and Stream,' Vols. XX and XXI, March 15-Jan. 23, 1884, contain, besides the greater part of Mr. Everett Smith's 'Birds of Maine' (see Bull. N. O. Club, VIII, pp. 164-166), the following (Nos. 609-668):—

609. *The Carrion Crow.* (*Cathartes atratus.*) By Byrne. *Forest and Stream*, XX, No. 3, p. 45.—Account of its habits as observed at Crockett's Bluff, Ark.

610. *The Horned Lark.* By Rev. J. H. Langille. *Ibid.*, No. 4, pp. 66, 67.—Its habits and abundance in Western New York.

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* Proc. U. S. Nat. Mus. 1883, p. 158.

† The Birds of Haiti and San Domingo, by Charles B. Cory, F. L. S. Published for the Author by Estes and Lauriat, Boston, U. S. A. Part I [March] 1884, 4to. pp. 17-56, pll. 6.

‡ The plate of *Ligea palustris* appeared in advance of the work in the first number of 'The Auk,' to which Mr. Cory generously contributed it in illustration of his original description of the species.

611. *Ohio Bird Arrivals.* By A. Hall. *Ibid.*, No. 5, p. 85.— Gives dates of arrival of the Bluebird for five years at East Randolph, O., etc.

612. *Black Vulture in Northern Dakota.* By George A. Boardman. *Ibid.*, No. 6, p. 106.

613. *Winter Birds in Western Massachusetts.* By W. W. Colburn. *Ibid.*, No. 6, p. 106.— Capture of the Great Gray Owl (*Syrnium cinereum*) at Agawam. (This specimen is also recorded in Bull. N. O. C., VIII, p. 123, and by W. A. Stearns in *Amherst Record* (newspaper) of Aug. 1, 1883.)

614. *The Yellow-bellied Woodpecker. Picus* ——. By B. Horsford. *Ibid.*, No. 7, p. 124. Kills trees by girdling them.

615. *Will Owls kill Crows?* By G. Albert Knapp. *Ibid.*, No. 7, p. 125.— Answered affirmatively by the citation of instances.

616. *Our Winter Birds.* By George Enty. *Ibid.*, No. 8, p. 146.

617. *The Great Carolina Wren in Connecticut.* By C. H. Neff. *Ibid.*, No. 8, p. 47.— Taken at Portland, Conn., March 2, 1883. (Same specimen also recorded in Bull. N. O. C., VIII, 120.)

618. *The Ptarmigan Winter.* By H. G. V[ennor]. *Ibid.*, No. 9, p. 166.— Ptarmigans in the neighborhood of Pembroke, Canada, during the winter of 1882-83.

619. *Mocking-Bird in Massachusetts.* By John C. Cahoon. *Ibid.*, No. 10, p. 185.— Taken at Taunton, March 26, 1883, by the writer.

620. *Massachusetts Winter Birds. Birds Wintering at Taunton, Mass., and Vicinity, during the Winter of 1882-83.* By John C. Cahoon. *Ibid.*, No. 12, p. 224.

621. *Some Southern California Birds.* By James E. Wadham. *Ibid.*, No. 12, p. 225.— Notes on 6 species.

622. *Turkey Buzzard in Maine.* By R. A. Gushee. *Ibid.*, No. 13, p. 245.— One taken at East Fryeburg, and another seen.

623. *Spring Birds of Nebraska.* By A. Hall. *Ibid.*, No. 14, pp. 265, 266, No. 15, p. 284.— An annotated list of 114 species, observed in the "vicinity of the Platte River, in Southeastern Nebraska, from March 1 to June 1, 1880." Includes Sprague's Lark (breeding), Townsend's Flycatcher, Baird's Sparrow, Leconte's Sparrow, Lark Bunting, Arctic Towhee, Magpie, Burrowing Owl, and other Western birds, with most of the common Eastern species.

624. *Nova Scotia Spring Notes.* By J. Matthew Jones. *Ibid.*, No. 15, p. 285.— Records the arrival of some of the earlier spring birds.

625. *Birds of Northern Ohio.* By Seym. R. Ingersoll. *Ibid.*, No. 16, pp. 304, 305.— A briefly annotated list of 208 species.

626. *Notes on the Birds of Alabama.* By A. M. R. *Ibid.*, No. 17, p. 323.— An annotated list of some 94 species. The Bobolink and *Siurus nævius* reported as *breeding*; the Ivory-billed Woodpecker as "common in the mountainous region of the north," while the Pileated is not given! There are other notes that evidently require explanation or confirmation. The notes were made "during the summers of 1880 and 1881," and relate to the "two extremes" (northern and southern) of the State. It is, there-

fore, greatly to be regretted that the notes relating to the two localities were not kept separate.

627. *Birds of Northern Ohio. Additions.* By H. E. Chubb. *Ibid.*, No. 18, p. 343.— Forty-four species are added to Mr. Ingersoll's list (see above, No. 625), raising the total number to 252: and there are emendatory notes on 8 others.

628. *A Naturalist in Washington Territory.* By Kallakalla. *Ibid.*, No. 19, p. 363.— An interesting paper, largely ornithological. We regret that the author has impaired its availability by concealing his identity under a pseudonym.

629. *When the Birds Return.* *Ibid.*, No. 19, p. 364.— Two articles: the first, by 'Old Turkey,' gives the arrival of about 70 species at Long Hill, N. J., March 3 to May 27, 1883; the other, by S. R. I[ngersoll]., gives the arrival of upwards of 80 species at Cleveland, O.

630. *Winter and Spring Notes*, 1882-83. By Charles H. Neff. *Ibid.*, No. 19, p. 364.— Observations made at Portland, Conn., Dec. 9 to April 1.

631. *The English Sparrow.* By E. C. Bell. *Ibid.*, No. 19, p. 364.— Vigorous comment on its bad qualities.

632. *Anomalies in Bird Life.* By Lew Vanderpool. *Ibid.*, No. 20, p. 383.— An albino Robin; a Baltimore Oriole imitating the Catbird's song.

633. "*Do Rails Carry Their Eggs.*" By J. D. L. *Ibid.*, No. 20, p. 384.— A supposed instance cited.

634. *How to Kill the English Sparrow.* By Wilson Flagg. *Ibid.*, No. 26, p. 503.— By use of a steam fire engine!

635. *Breeding Quail in Confinement.* By John J. Willis. *Ibid.*, Vol. XXI, No. 5, p. 84.— Successful attempts reported.

636. *Hybridity in Birds.* Editorial. *Ibid.*, p. 84.— Comment on the case of hybridity between the Snowbird and White-throated Sparrow reported by Mr. Townsend (Bull. N. O. C., VIII., p. 78; Proc. Acad. Nat. Sci., 1883, p.—), and a case of hybridity reported between the Mallard and Pintail Duck.

637. *Breeding Quail in Confinement.* By Henry Benbrook. *Ibid.*, No. 7, p. 123.— Other successful attempts reported.

638. *The Birds of Maine.* By Everett Smith. *Ibid.*, No. 8, pp. 143. 144.— Reply to 'W. B'.s' review (Bull. N. O. C. VIII. 164-166) of his series of papers on this subject.

639. *Nova Scotia Summer Notes.* By J. Matthew Jones. *Ibid.*, No. 9, p. 163.— Contains a few bird notes.

640. *The White-winged Gull. Larus leucopterus.* By Everett Smith. *Ibid.*, No. 9, pp. 163, 164.— Referring specimens previously identified by Mr. W. Brewster (Bull. N. O. C., VIII. 125) as *L. glaucescens* to *L. leucopterus*, with further comment on Mr. Brewster's review of the writer's 'Birds of Maine.'

641. *American Ornithologists' Union.* [By C. Hart Merriam.] *Ibid.*, No. 10, p. 183.— Report of the proceedings of the meeting for organization held in New York City, Sept. 26-28, 1883.

642. *Quail bred in Confinement.* By G. N. (Savannah, Ga.). *Ibid.*, No. 11, p. 183.— Another successful attempt reported.

643. "*The Birds of Maine.*" By William Brewster. *Ibid.*, No. 11, p. 202.— A rejoinder to Mr. Everett Smith. (See above, Nos. 638, 640.)

644. *The Birds of Prospect Park* [*Brooklyn, N. Y.*]. By W. B. Wyman. *Ibid.*, No. 12, pp. 226, 227.— A nominal list of 81 species, including a number of improbable occurrence.

645. *Domesticating Game Birds.* Editorial. *Ibid.*, No. 14, p. 264.— Notes on the Ruffed Grouse, the Pintail Grouse, and the common Quail.

646. *The Birds of Prospect Park.* By Louis A. Zerega. *Ibid.*, No. 16, p. 304.— A criticism on a previous article of the same title (see above, No. 644), exposing its untrustworthiness. An editorial apology for the admission of the former article into the pages of 'Forest and Stream' follows.

647. *Importation of Game Birds* [*into Massachusetts*]. By J. N. S. *Ibid.*, No. 16, p. 305.— English Pheasants.

648. *How to Prepare Bird Skins.* Editorial. *Ibid.*, No. 16, p. 304. (Reprinted from 'F. and S.' of Dec. 1, 1881.)

649. *Rearing Pheasants.* By Frank J. Thompson. *Ibid.*, No. 17, pp. 324, 325.— Directions for the care and propagation of Pheasants.

650. *Game Birds* [*Rails and Quails*] *at Sea.* By Fayette S. Giles. *Ibid.*, No. 19, p. 363.

651. *The Bohemian Waxwing.* By F. E. L. Beal. *Ibid.*, No. 19, p. 363.— Its appearance in considerable numbers at Ames, Iowa, in Nov. 1883.

652. *Swallow-tailed Kite in Maine.* Editorial. *Ibid.*, No. 19, p. 363. — An erroneous record (see below, No. 665).

653. *The Purple Finch and his Cousins.* I. *Carpodacus purpureus.* By Dr. Elliott Coues. *Ibid.*, No. 20, pp. 385, 386.— Biography of the species.

654. *The Whooping Crane.* By Picket. *Ibid.*, No. 21, p. 407.— An interesting account of its habits.

655. *The Purple Finch and his Cousins.* II. *Carpodacus cassini.* By Dr. Elliott Coues. *Ibid.*, No. 22, p. 435.— Biography of the species.

656. *Interesting Pets.* By Violet S. Williams. *Ibid.*, No. 22, pp. 435, 436.—Relates mainly to a "great brown and white owl."

657. *Nesting of the Hooded Merganser* [*in the Adirondacks*]. By Fred. Mather. *Ibid.*, No. 22, p. 436.

658. *The Purple Finch and his Cousins.* III. *Carpodacus frontalis.* By Dr. Elliott Coues. *Ibid.*, No. 23, p. 451.— Biography of the species.

659. *The White-winged Gull.* By Everett Smith. *Ibid.*, No. 24, p. 474. — A reply to Mr. Brewster (see above, No. 643).

660. *A Tame Crow.* By J. F. Sprague. *Ibid.*, No. 24, p. 474.

661. *A Least Bittern* [*at Onondaga Lake, N. Y.*]. By Walt. Mickle. *Ibid.*, pp. 474, 515.

662. *Picoides arcticus in Massachusetts.* By W. A. Stearns. *Ibid.*, No. 24, p. 474.— Near Dorchester, August 11, 1883.

663. *Note on the Eider Duck.* By Charles Linden. *Ibid.*, No. 24, p. 474.

664. *Cardinal Grosbeaks in Winter.* By H. C. Kirkpatrick. *Ibid.*, No. 24, p. 474.— At Meadville, Pa.

665. "*Swallow-Tailed Kite in Maine.*" Editorial. *Ibid.*, No. 24, p. 454. — Sent from the West — not killed in Maine. (See above, No. 652.)

666. *Range of Carpodacus frontalis.* By J. *Ibid.*, No. 25, p. 493.— A pair killed at Fort Lyon, Col., June 3, 1883, the female containing an egg nearly ready to lay.

667. *Bird Migration.* By C. Hart Merriam. *Ibid.*, No. 26, pp. 514, 514.— Circular of the A. O. U. Committee on Migration of Birds.

668. *Late Snipe.* By S. R. Ingersoll. *Ibid.*, No. 26, p. 515.—Taken at Cleveland, O., Dec. 23, 1883.

Publications Received.—**Coues**, E., and D. Webster Prentiss. Avifauna Columbiana: being a list of the Birds ascertained to inhabit the District of Columbia, etc. (Bull. U. S. Nat. Mus., No. 26, 1883.)

Dalgleish, John J. Notes on a Second Collection of Birds and Eggs from Central Uruguay. (Proc. Roy. Phys. Soc. Edinburgh, VIII, pp. 77-88.)

Lescuyer, F. (1) Langage et chant des Oiseaux. 8vo., pp. 134. Paris, 1878. (2) Étude sur les Oiseaux. Architecture des Nids. Deuxième édition, revue et augmentée. 8vo., pp. 222. Paris, 1878. (3) Utilité de l'Oiseau. Étude élémentaire d'ornithologie. 8vo., pp. 80. Paris, 1883.

Shalow, Herman. (1) Ueber die Fortschritte auf dem Gebiete der Ornithologie in den letzten fünf Jahren in faunistischer Beziehung. (Journ. für Orn., Juli, 1883. (2) Die ornitholog. Sammlungen Dr. R. Böhm's aus Ost-Afrika. I, Ueber die Sammlungen aus den Gebieten von Zanzibar, Ugogo und Kakoma. (Journ. für Orn., Oct. 1883.)

Ridgway, Robert. (1) Descriptions of some New North American Birds. (2) Description of a New American Kingfisher. (3) Notes on Psaltriparus grindæ Belding. (4) Note on the Generic Name Calodromas. (5) A Review of the American Crossbills (Loxia) of the L. curvirostra type. (6) Remarks on the type specimens of Muscicapa fulvifrons, Giraud, and Mitrephorus pallescens, Coues. (7) Note regarding the earliest name for Carpodacus hæmorrhous (Wagler). (Proc. Biolog. Soc. Washington, II, April, 1884.)

Stejneger, Leonhard. (1) Diagnoses of New Species of Birds from Kamtschatka and the Commander Islands. (Proc. Biol. Soc. Washington, II, April, 1884. (2) Classification of Birds. (Science Record. May, 1884.) (3) Ueber einige Formen der Untergattung Anorthura. (Zeitsch. für die gesammte Ornithologie, I, Heft 1, 1884.)

Meyer, A. B. Ueber neue und ungenügend bekannte Vögel, Nester und Eier aus dem Ostindischen Archipel im Königl. Zoologischen Museum zu Dresden. (Sitzungsb. u. Abhandl. der Isis, 1884, Abh. 1.)

Reichenow, Ant. (1) Bericht über die Leistungen in der Naturgeschichte der Vögel während des Jahres 1882. (Journ. für Orn., Oct. 1884. (2)

Die Vögel der Zoologischen Gärten. Zweiter Theil. 8vo., pp. 19 + 456, Leipzig, 1884.

Finsch, O. Ueber Vögel der Südsee. 8vo., pp. 56. Wien, 1884.

Scudder, S. H. Nomenclator Zoologicus. (Bull. U. S. Nat. Mus., No. 19.)

Shufeldt, R. W. Osteology of Ceryle alcyon. (Journ Anat. and Phys., XVIII, pp.379-394, pl. xiv.)

Zeitschrift für die gesammte Ornithologie, I Jahr., Heft 1, 1884.

Ornithologist and Oölogist, April, May, June, 1884.

Bulletin Buffalo Naturalists' Field Club, I, Nos. 5, 6.

Bulletin of Massachusetts Natural History, I, Nos. 1, 2, April, May, 1884.

American Naturalist, May, June, July, 1884.

Zoologist, April, May, June, 1884.

Random Notes on Natural History, I, Nos. 4, 5, 6, 1884.

GENERAL NOTES.

The Generic Name Ligea.—As I find the generic name *Ligea*, proposed by me for a Sylvicoline bird from Haiti in the January number of 'The Auk' (p. 1), is preoccupied in zoölogy, I propose to substitute therefor the name *Microligea* (μικρος, Λιγεία, in the sense of little wood-nymph). The single known species will therefore stand as *Microligea palustris*. —Charles B. Cory, *Boston, Mass.*

The Occurrence of the Golden Swamp Warbler (*Protonotaria citrea*) **in Rhode Island.**—The specimen, a male in bright plumage, was shot April 20, 1884, upon the borders of a dense though not extensive swamp in the southeastern corner of the State. The mein of the bird was suggestive of fatigue, and it showed no fear of its captors, who were forced to retreat from it before firing, to avoid excessive mutilation. No other birds were seen in the vicinity; in fact, Yellow-rumped Warblers and Fox Sparrows were the only other birds present in force in this locality at that season. Upon examination the wing (primaries) and tail-feathers showed considerable wear, though not conspicuously more than several specimens shot upon the western range of this bird, with which I have compared it. The only previous record of this beautiful warbler in New England seems to have been that of a fall (October) bird in Maine. This occurrence, so near the annual migration, suggests the query as to whether the especially favorable locality in which it was found may not be regularly visited.—R. G. Hazard, 2d., *Peace Dale, R. I.*

Capture of the Summer Red Bird on Long Island.—On May 16, 1883, my cousin, a boy of about fourteen, brought me a couple of birds which he had shot in this place. I found them to be very much mutilated and hardly fit to be mounted, but I took the skin of one, as it was new to me, and laid it away. On examining Audubon's 'North American Birds' lately, I saw that the skin I had was that of the male Summer Red Bird. I believe that the other bird, which I threw away at the time, it being too much mutilated to do anything with, was a female of the same species. It was only a few days ago that I learned that this bird is quite rare in this section, and so communicate the particulars. The skin was also identified by Dr. A. K. Fisher. The boy who shot the two birds above mentioned told me at the time that he had seen others of the same kind, but could not shoot them.—W. F. HENDRICKSON, *Long Island, N. Y.*

Vireo philadelphicus in Northern New York.—On the 21st of May last Mr. A. R. Crosier, keeper of the Fair Haven Light, on Lake Ontario (in Cayuga County, New York), sent me for identification a specimen of the Philadelphia Vireo which had killed itself by flying against the glass of the lantern at that station.—C. HART MERRIAM, *Locust Grove, N. Y.*

Vireo philadelphicus in the Adirondack Region.—On the afternoon of May 22, 1884, while collecting data for the A. O. U. Committee on Migration, I secured a specimen of this rare bird. Dr. A. K. Fisher, of Sing Sing, N. Y., who kindly identified it for me, says it is the first recorded from the Adirondack Region. At the time of capture the bird was sitting on a small bush at the edge of a dense alder swamp; it was entirely alone, and is the only one I have seen.—M. H. TURNER, M. D., *Hammondville, Essex Co., N. Y.*

The Loggerhead Shrike again in Massachusetts.—On January 29, 1884, Mr. Eastman of this place observed two Shrikes by the roadside very near the centre of this village, apparently contending for the possession of a small bird. One left as he approached, the other he secured, and it proved to be a typical *Lanius ludovicianus*, male, in clear, bright plumage. The prey was an English Sparrow. (Too bad to kill a bird engaged in *that* business!) Perhaps these birds were members of one of the colonies so lately discovered breeding to the north of us, as set forth in Bull. Nutt. Club, 1879, by Brewer (p. 119), and Purdie (p. 186), and exhaustively by the former in Proc. Boston N. H. Soc., 1879, p. 226.—F. C. BROWNE, *Framingham, Mass.*

Notes on 'Lanius cristatus' and 'L. borealis,' of Nelson's 'Birds of Bering Sea and the Arctic Ocean.'—I have read with the greatest interest E. W. Nelson's account of the birds collected and seen during the cruise of the steamer 'Corwin' in Alaska and the N. W. Arctic Ocean (Washington, 1883). Mr. Nelson gives (p. 65) a detailed description of a rufous Asiatic Shrike under the name of *Lanius cristatus* juv., which was found in the vicinity of Wrangel Island. It was a dried specimen, a very good figure of which, by Mr. Ridgway, is given, from which I see the bird is not *Lanius cristatus* Lin. (*Otomela cristata* Bp.), but a nearly allied species, viz., *Phoneus brachyurus* of Pallas, the oldest name of *Lanius bucephalus* Temm. & Schleg. (Fauna Japonica), as I have pointed out in Cabanis's 'Journal für Ornithologie' (1876, p. 215). The occurrence of this Japanese Shrike in Wrangel Island is of great interest. In a little account of this bird (Journ. f. Orn., 1881, Meeting of the Germ. Ornith. Soc. of Febr.) I have referred to the specific differences between *Otomela cristata* and *Phoneus brachyurus*. The Gray Shrike noted by Nelson and named *Lanius borealis* Vieill. (p. 67), I suppose to be not this bird, but probably *Lanius major* of Pallas. The great gray *Lanius*, which has been collected by Dr. A. Krause, near the mouth of the Chilcat, Alaska, now in the Berlin Museum, which has been described, too, by Dr. Hartlaub as *L. borealis* (J. f. O., 1883. p. 270) is certainly *L. major* Pall. Professor Cabanis has confirmed my opinion (*cf.* J. f. O., Meeting Germ. Ornith. Soc., March, 1881).—HERMAN SHALOW, M. G. O. S., *Berlin*.

Probable Breeding of the Red Crossbill (*Loxia curvirostra americana*) in Central Maryland.—May 23, 1884, Mr. George Marshall shot two Crossbills, a male and female, from a flock of five, near Laurel, Maryland. The female showed unmistakable evidence of having recently incubated. Two days afterward another male was shot in the same locality. The three specimens are now in the National Museum collection, two of them having been mounted for the exhibition series. Their measurements are as follows:

Mus. Register No.	Sex and Age.	Locality.	Date.	Wing.	Tail.	Culm.	Depth of Bill.	Gonys.	Tars.	M.t.
97967	♂ ad.	Laurel, Md.	May 25, '84.	3.60	2.30	.68	.40	.50	.67	.60
97972	♂ ad.	" "	" 23, "	3.60	2.25	.65	.40	.45	.65	.60
97968	♀ ad.	" "	" 23, "	3.40	2.00	.65	.40	.41	.65	.50

From their dimensions they would therefore be referable to *americana* proper, although representing about the maximum of size in this form. (See Proceedings of the Biological Society of Washington, Vol. II, pp. 101-107.)

This species probably sometimes breeds in various portions of the State of Maryland. In fact, I have been assured by Mr. A. Wölle, an experienced and reliable collector and bird-fancier of Baltimore, that he had, on several occasions, found the nest of this species in the immediate vicinity of that city.—R. RIDGWAY, *Washington, D. C.*

The Probable Breeding-place of Passerculus princeps.—The National Museum possesses a considerable series of eggs labeled "*Passerculus savana*, Sable Island, Nova Scotia, July, 1862; J. P. Dodd," which are uniformly so much larger than those of the Savannah Sparrow as to strongly suggest the probability that they may be in reality those of the

Ipswich Sparrow. At any rate, the matter is worth investigating, and it is hoped that some reader of 'The Auk' may be able to decide the question.— ROBERT RIDGWAY, *Washington, D. C.*

Calamospiza bicolor in Southern California.— About the middle of April of the last spring, I saw an individual (male) of this species within a quarter of a mile of San Diego Bay, singing by the roadside. Early in May they were first observed in large flocks on the mesa within a few miles of the Mexican line, both males and females. At present writing, May 25, they are everywhere abundant on the mesas, and apparently breeding. Mr. L. Belding tells me he has met with the bird in Lower California during his explorations there. I have never met with it before in California, nor have I heard of its occurrence here in past years. Do I record a new area of its distribution? —GODFREY HOLTERHOFF, *National City, Cal.*

Egg of the Cowbird in Nest of the Carolina Dove.—Mr. E. H. King of West Liberty, Iowa, writes me to this effect, adding that the Dove is the largest bird he has known to be chosen as the Cowbird's foster-parent. — ELLIOTT COUES, *Washington, D. C.*

Xanthocephalus icterocephalus in Chester County, South Carolina. — Sometime since a friend informed me that there was to be seen in one of the stores of this place a curious and unknown bird, which was exciting considerable comment. In this *rara avis* I expected to find, as has frequently been the case heretofore, the Rose-breasted Song Grosbeak, or some other of the smaller and more brilliantly colored birds, which usually escape general observation. In consequence, I was not a little surprised to find a large Blackbird, with a yellow head, neck, and fore-breast, and a conspicuous white wing-patch, which I recognized at once as the Yellow-headed Swamp Blackbird of the western prairies. The circumstances of the capture are as follows: On the morning of April 17, 1884, a gentleman of the town noticed it in his stable-yard, just back of the principal business street. Here it remained all day, being very tame, and letting him walk up within fifteen or twenty steps, then "running off like a chicken." At night it disappeared, but the next morning, the 18th, it returned and was caught about ten or eleven o'clock in a trap. The presence of this wanderer, in a locality so remote from its usual habitat, is not improbably due to the heavy southwest gales we had been having for some time back.— LEVERETT M. LOOMIS, *Chester, S. C.*

The Turkey Buzzard in Western New York. — A Turkey Buzzard (*Cathartes aura*) was shot at Kendall Mills, ten miles northwest of this town, May 23, 1884, by a farmer named George Hoffman. He saw the bird sitting on the top of a dead tree near where he was at work, and by a well-directed shot with his rifle brought it to the ground. The bird was purchased by Mr. D. T. Bruce, a taxidermist of Brockport, and is now in his collection. The specimen was recorded by Mr. Bruce in the 'Brockport Republic' of May 29, 1884; but the occurrence seems worthy of a more accessible and permanent record. —J. T. FRASER, *Brockport, N. Y.*

Occurrence of the Least Tern at San Diego, Cal.— Quite a number of individuals of this species were shot in the summer of 1883, on the peninsula enclosing San Diego Bay. My own record of the birds is for the months of June and July, but others were reported in August and September. None have been seen this year up to date (May 25), and I am inclined to think their occurrence very unusual. I have never heard of them before on this southern coast.—GODFREY HOLTERHOFF, *National City, Cal.*

Wilson's Petrel in Western New York.— In my report to Dr. A. K. Fisher of the birds that occur in this vicinity, I mentioned among the Accidental Visitants a 'Stormy Petrel,' and gave him the particulars of its capture. He asked me to report it to 'The Auk'. The specimen is in my collection, and was taken by Mr. J. A. Newton of this city in Oct., 1875, while shooting Golden Plover in a field just outside the city limits. On examining it I find it is a Wilson's Petrel (*Oceanites oceanica*) instead of Stormy Petrel as reported. It was presented to the Jewett Scientific Society and lately came into my possession.—J. L. DAVISON, *Lockport, N. Y.*

New Brunswick Winter Notes. — Birds were particularly abundant during the winter that has just passed, especially through the earlier months, but they were not of the species generally common here at that season. The scarcity of Owls and Hawks was a marked feature, as was also the comparatively rare occurrence of the Crossbills, the Chickadees, the Snow Bunting, the Tree Sparrow, and the Redpoll. Pine Grosbeaks were numerous, and I thought some of the adult males were more brilliantly colored than any I had met before. They are always rather fearless of man, but the flock that wintered near St. John last winter seemed conspicuously so. I came upon a number feeding on the ground, and as I walked through their midst they barely moved out of my way, going off two or three yards, and when I stood, coming back to within arm's reach. One audacious fellow actually hopped between my legs, coolly pecking as he went.

The Red-bellied Nuthatch and the Golden-crowned Kinglet were reported very abundant in some localities. One trustworthy correspondent writes: "Observing a throng of birds in a grove, I went to the edge, and gave a shrill whistle, when they flocked around me. I counted over forty, mostly Nuthatches."

But the winter will be chiefly remembered by our naturalists as the season when the Bohemian Waxwing was first seen by the rising generation of observers; when several individuals of the Brown Creeper, the Thistle Bird, the Purple Finch, and the Cedar Bird were taken near St. John in January and February, and when large numbers of Crows and Robins spent the entire season in the Province.

It was not a 'mild' winter either, for though during a part of February the temperature was higher than that month generally brings us, the weather of the most of January was far from 'mild'—the thermometer registering fifteen to twenty-four degrees below zero with a frequency and persistency that is quite unusual in this vicinity.

On stormy days the birds were not seen about the city, but they seemed quite indifferent to the cold, and when the sun was shining, even though the temperature was extremely low, they literally swarmed upon the branches, and on the ground beneath the mountain ash trees, in the squares and gardens; nor did they finally leave until every berry had been devoured.

I had almost neglected to note another occurrence for which the past winter will remain remarkable—the advent of *Passer domesticus.* Somewhere about New-Year's day a small detachment of English Sparrows—the first that are known to have visited this Province—arrived at St. John in a car of grain shipped from some western city; and, somewhat in the style of other 'cheeky' visitors, these pests act as if they intended to 'stay all summer.'—MONTAGUE CHAMBERLAIN, *St. John, N. B.*

Second Addendum to List of Birds Ascertained to Occur within ten miles from Point de Monts, Province of Quebec, Canada; based chiefly upon the Notes of Napoleon A. Comeau.—Mr. Comeau has sent me skins of the following-named species, taken by him at Godbout, and not previously recorded from that locality:

157. **Saxicola œnanthe.** Shot May 18, 1884.
158. **Passerella iliaca.** Shot Oct. 11, 1883.
159. **Spizella monticola.** Shot in August, 1883.
160. **Passer domesticus.** Shot May 27, 1884.
161. **Empidonax flaviventris.** Shot in August or September, 1883.
162. **Tringa canutus.** Shot in August or September, 1883.
163. **Accipiter fuscus.** Shot May 2, 1884. Tolerably common: breeds.
164. **Melospiza lincolni.** Shot June 2, 1884.
165. **Melospiza palustris.** Shot June 2, 1884.
166. **Falco peregrinus nævius.** Shot June 2, 1884.
167. **Passerina cyanea.** Shot June 8, 1884.
168. **Siurus auricapillus.** Shot June 9, 1884.
169. **Sphyrapicus varius.** Shot June 13, 1884.
170. **Picoides tridactylus americanus.** Tolerably common.—C. HART MERRIAM, M.D., *Locust Grove, New York.*

CORRESPONDENCE.

[*Correspondents are requested to write briefly and to the point. No attention will be paid to anonymous communications.*]

An Ornithological Swindler.

TO THE EDITORS OF THE AUK:—

Sirs: A case of ornithological swindling which has lately come to my notice is of such an aggravated character that I feel it my duty to make the facts known. They are as follows:—

A certain museum in this State, wishing to increase its local collection of birds, engaged the services of a professional taxidermist and collector, whose reputation for honesty was supposed to be above suspicion. He was furnished with lists of desiderata, and instructed to supply the species as soon as they could be obtained; it being distinctly understood, however, that only birds actually taken within the limits of a certain county would be accepted by the institution. For a time everything worked to the satisfaction of all concerned. Birds fairly poured into the museum, the cases were filling fast, and the collector's zeal and energy were not less evident than gratifying. His success in obtaining rarities was remarkable, for in less than two years he supplied specimens of nearly every species which has ever occurred in Massachusetts. This of itself should have early caused suspicion; but, fortunately for him, none of the officers of the institution were ornithologists; so such birds as Rough-winged Swallows, Yellow-headed Blackbirds, Wilson's Plover, etc., continued to be received with perfect confidence in the carefully recorded data which accompanied them.

At length, however, a gentleman familiar with Massachusetts birds visited the museum, and upon examining its local collection became convinced — from evidences which need not be mentioned here — that all was not as it should be. The curator, at first unwilling to believe ill of his trusted ally, was finally induced to put a watch on his movements, and as a result discovered that he was ordering bird-skins in numbers from various dealers; and, furthermore, that there was little doubt that many of these skins were afterwards mounted for the museum and, supplied with imaginary data to suit the requirements of each particular case, were sent in as veritable——County specimens. Through the kind coöperation of one of these dealers (who, it should be said, had been hitherto ignorant of the use to which his birds had been put), positive proof of this was speedily obtained, marked skins (whose labels were carefully recorded) being furnished by him to the collector, who at once fell into the trap, and after mounting and relabelling them sent them to the institution.

When directly charged with this and similar practices, the hardened wretch denied his guilt with the utmost effrontery, nor was it until he had been confronted by the proofs that he finally broke down. It is satisfactory to add that he was forced to disgorge his ill-gotten gains, and that the officers of the museum recovered nearly, if not quite, the whole of the money which had been paid him.

In the present connection it is not necessary — while it would be, for certain reasons, ungracious — to mention the name of the institution above referred to, especially since it has purged its cases of all specimens to which the slightest suspicion can attach; but no considerations, whether of mercy or personal delicacy, can warrant the witholding of the collector's name. His offence is not simply that of wilfully defrauding a trusted employer; it reaches — or at least might have reached — very much further. For had his falsely labeled specimens passed unchallenged, dozens of erroneous records would have been inevitably published and perpetuated.* In short, the interests of ornithology demand that a case so flagrant be made an example of warning to all who may be tempted to commit similar crimes (the word is a strong one, but let it stand). Accordingly I hold up for the contempt of all honest men the name of Emery C. Greenwood of Ipswich, Massachusetts. It is to be hoped that there are no more such deceivers in our midst. If any are known or suspected let them be promptly dealt with.

Very truly yours,
WILLIAM BREWSTER.

Cambridge, Mass., June, 1884.

Can we not have a Simpler System of Nomenclature?

TO THE EDITORS OF THE AUK:—

Sirs: The present seems a fitting time to test the views of ornithologists as regards a new nomenclature. So much has to be crowded into one's life, that in general the simpler the basis of our knowledge is, the more will interest be awakened; and so it is with ornithology also. If we would have a nomenclature that will endure, we must make it as simple as possible, so that it serves our purpose. And ornithology can be made easy, without at all retarding its advancement, and at the same time, not be continually in an unsettled state as regards nomenclature. For ordinary purposes, of what use is the generic name? Is there a case where the family name will not serve as well? If there are two specific names alike in one family, then one should be changed immediately. The family name will answer every purpose and much better than the generic; and if the present generation does not adopt it, some future one will, for complication will not stand the wear of time where simplicity will do as well.

If the family name is used, the ordinarily well-read people will master the rudiments; while now none but specialists know anything of ornithology by its scientific appellations. This change will in no way be detrimental to the student either, for he will know just as well what *Turdus mustelinus*, *Turdus migratorius*, *Turdus polyglottus*, and *Turdus rufus* are as though *Hylocichla*, *Merula*, *Mimus*, and *Harporhynchus* were used, and the general reader will know he is reading about a Thrush.

Many of the family names carry with them their own meaning, while very few of the generic do. The family names of the bird-world would not be very difficult to master; but who can say the same of the generic? Those of this country are known perfectly by very few.

But doubtless the question will be asked, What shall become of the generic names? My reply is, leave them in the scientific books, where

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*As it was the escape was a narrow one, for at various times during the past two years he has been kind (!) enough to write to Mr. Allen and myself concerning some of his more interesting captures, in more than one instance actually giving a detailed account of the shooting of a specimen in Massachusetts which we now know came to him in the skin from *Norway*. Fortunately these notes were not fully trusted, and only one of them — that of the Wood Ibis, announced by Mr. Allen in the 'Bulletin of the Nuttall Ornithological Club' (Vol. VIII, p. 185)—was actually published.

they belong, and from which they should never have been taken for common use. The following schedule will better show the working of the change I propose, taking Ridgway's 'Nomenclature of North American Birds' in illustration.

Family TURDIDÆ.
Genus *Hylocichla.*

1. *Turdus mustelinus.*
2. *Turdus fuscescens*, etc.

Genus *Turdus.*

6. *Turdus iliacus.*

Genus *Merula.*

7. *Turdus migratorius.*

Genus *Hesperocichla.*

9. *Turdus nævius.*

Eight genera in Turdidæ where one would answer equally well for all articles upon birds, and which would be better understood by all who read them. *Picus* will answer as well for every Woodpecker as the eight names used in its stead, and *Anas* for every Duck, as well as the twenty-two now used, etc.

It will be seen that all the changes of genera that may be instituted would not in the least affect tne general student or the public.

Very respectfully,
Providence, R. I., May 19, 1884. FRED. T. JENCKS.

The above was sent to the editor of 'The Auk,' and his reply to it [given below] was so conclusive that at my request he publishes both for the benefit of the many ornithologists who, like myself, may not understand the details imposed upon ornithology in respect to matters of nomenclature.— F. T. J.

Cambridge, Mass.,
May 20, 1884.

MR. F. T. JENCKS.
Providence, R. I.:—

Dear Sir: Yours of 19th, with enclosure for the July 'Auk,' is just received. The subject of which you write is certainly an important one. and the difficulties to which you allude I to some degree appreciate. Yet I must say I see no remedy. The scheme you present is certainly impracticable, as I could easily show you could I meet you and talk the matter over with you. It is rather too large a subject to handle readily in a letter. Yet I will try to call your attention to a few points, and will take the family you instance — the Turdidæ — in illustration.

The latest monographer of this group refers to it nearly 250 species, for which he recognizes 18 genera. Have you any idea how difficult it would be to find 250 different and distinct specific names for these birds, and how many *new* names would have to be imposed to take the place of names used more than once within even the typical Thrushes (subfamily Turdinæ) alone? A reference to the synonymy of the Thrushes, as here presented, shows that in some instances the same specific name is used by different writers, in the current literature of the subject, for as many as *nine* different species; while many names are used *five* times, a much larger number *three* and *four* times, and a great many more are used *twice*. The instances are not few where the same specific name is used for two or three different species *by the same writer*. To displace these names would be simply impossible, from the fact that the *rule of priority* is universally accepted by all biologists — botanists as well as zoölogists — as the fundamental principle of nomenclature, strict adherence to which is the only safeguard of stability in names. To ignore it gives every one the right, or at least opens the way to any one, to give a new name in place of any which for any reason he does not like. So long as tastes differ — as they always will in matters of nomenclature, as in other things — you may readily see what confusion would speedily result. But *nothing* will ever induce naturalists to revoke this rule, which was formally adopted 50 years ago as a relief from the chaos of names resulting from any one who chose displacing names he did not like. A fatal objection to your scheme is this substitution of new names for old ones on a large scale, in order that the same specific name may not be used twice in the same *family*. Naturalists already find difficulty enough in selecting names that have not been used before in the same *genus!*

So much for this side of the subject. Now as to a point in classification. The Turdidæ, as now construed by leading authorities, include not only the birds known to us in this country as Thrushes, but also the very large Old World group of Warblers (genera *Sylvia*, *Phylloscopus*, *Cettia*, *Locustella*, etc.), the Redstarts (*Ruticillæ*), Stonechats (*Saxicolæ*), the Nightingales, Robin-Redbreasts, etc., and our own Bluebirds, and the Solitaires. To use *Turdus* as the generic term for all these forms would so expand its significance that it would convey no very clear idea of the kind of bird meant. On the other hand, many birds popularly called Thrushes — as the great group of 'Babbling' Thrushes of the Old World, and the 'Mocking' Thrushes of the New World, including our Brown Thrush, Mockingbird, Catbird, and their allies — are ruled out of the family. The latest and highest authorities on the Passeres *emphatically* exclude our Mockingbirds and Thrashers from the family Turdidæ, on what are considered good structural characters. So you will see that part of the examples you cite as members of *Turdus* are not admissible into even the Thrush *family*. I fear, to meet your views, we should have to have not only a new *system of nomenclature*, but a *new classification* as regards the *families* of birds.

But these are only a few specimen examples of the great number of objections your scheme would encounter. The impracticabilities are numerous and appear on every hand.

I do not doubt that you represent a wide-spread and deep feeling, but at the same time it is perfectly evident that it results from limited knowledge of the subject. You have in mind mainly the birds of a limited area — not those of the world at large. But this dissatisfaction you voice is not altogether without cause, and is a natural reaction against a refinement of classification, as regards genera, which in this country has been carried quite too far, and against which there is also a reaction among experts themselves. What you hope to see, I may venture to say, will be to a large degree realized in the next Check List of North American birds — the A. O. U. List. It will necessarily be some time — perhaps a year or more — before it will be in the hands of the public; but it is an open secret that it will present, for one thing, a very great reduction in the number of generic names — a return in this respect to almost the Audubonian basis.

But there is perhaps another thing which you overlook, and that is that while many of the genera in our North American list have but one or two species referred to them, they may be genera which have elsewhere many species, and that in a list of the birds of the world, instead of having one or two species, as is the case with *Merula*, *Saxicola*, *Mimus*, *Thryothorus*, *Myiadestes*, *Euphonia*, *Spermophila*, etc., they really include a dozen, or twenty, or even more.

Now, in regard to your paper sent for publication in 'The Auk.' From the standpoint of the scientist the scheme unfolded is in many ways so antagonistic to settled canons of nomenclature as to be thoroughly impracticable. This is a frank statement of the case, dictated by the most friendly motives. While I do not decline your article, as a friend I would advise its withdrawal, for reasons above stated. If you prefer to see it published, its proper place would be in the department of 'Correspondence,' and its character would call for editorial comment. About what that would be you can infer from the tenor of this letter .... I leave the matter in this way, and hope to hear from you soon in reply.

Very truly yours.
J. A. ALLEN.

A Lay View of 'Ornithophilologicalities.'

TO THE EDITORS OF THE AUK:—

Sirs: While reading the various articles which relate to the nomenclature of birds, by Professor Merriam and Drs. Stejneger and Coues, which have appeared in 'The Auk' and its predecessor, the lay mind is filled with dismay. The predominant feeling is that if these literary amenities are essential to the science we must forego the science. One cannot help thinking that a fitting caption for such papers as the dreary 'Ornithophilologicalities' would have been that which Dante found above the entrance to a less desolate region: "All hope abandon ye who enter here." Where opinions are so radically opposed what gains can be expected? Has all the controversy hitherto been able to accomplish anything? Do we not find even in so small a matter as the broad distinction between birds hatched naked and those hatched with a covering that Dr. Coues says 'psilopædic' and 'ptilopædic' in place of the 'gymnopædic' and 'dasypædic' of other authors? And is it not certain that each author is prepared to maintain that his particular word is the more preferable, even at the cost of obscuring the very pith and marrow of our beloved science?

I am prepared to applaud the energy, the untiring devotion, and the incomprehensible learning of the philologically inclined gentlemen, but I am prompted to ask whether we may not reasonably expect a deliverance from such discussions. I am quite aware that I shall be told that no compulsion is exercised in the matter, and that I need not afflict myself from a sense of duty. But this does not cover the case; I am, it is true. merely one of the most inconspicuous readers of 'The Auk,' but I know of some, at least, who believe as I do, that 'The Auk' would gain strength by excluding such arid matter as it has lately printed for the learned Doctors previously mentioned. If it is said that these articles properly belong in the pages of the 'American Ibis,' and it be so decided by a majority of my fellow readers, I shall endeavor to submit as gracefully as may be.

If you will allow me a word further, I shall beg to point out what seems to me a growing evil in ornithological writings of the present time. The tendency begotten of this precise controversial spirit, is to lose sight of the main object in pursuing the barren details. One who examines a landscape with a field-glass may be able to tell you that a man in a blue flannel shirt is rubbing down the farmer's horse in that distant farmyard, but, if fascinated by the power of the glass, he continues his examinations till the waning of the day, what is his knowledge of the details worth, compared to your own appreciation of the whole?

Now it appears to me that this is just what too many of our recent writers are doing. When a man pores over the distorted skin of what was once a bird, eventually asserting that the "hallux is slightly longer than the first phalanx of the middle toe," he has stated what may be a very valuable fact in analysis. But let him beware lest, in his solicitude for the minute, he totally unfit himself for a true appreciation of the whole.

An excessive familiarity with proper scientific terms is the bane of many otherwise pleasing writers; whoever wrote of the Woodcock, "Its eye is remarkably large and handsome, but unfit to bear the glare of the sun, its full and almost *amaurotic* appearance plainly suggesting the *crepuscular* habits of the bird,"* is clearly a victim to pedantry. Not one of the later writers can compare with Audubon or Nuttall in the use of English, and more especially in a certain feeling for nature, a love of the natural for its own sweet sake, unless, indeed, I except John Burroughs. Is it then impossible that accuracy and grace shall go hand in hand? Assuredly there are shining examples to the contrary; where, for instance, in contemporary writing can we find a parallel to the passage in which Audubon tells of his joy at discovering the American Avocet upon its breeding ground? He places before us the whole scene, and describes in graphic terms and simple English, the appearance, the evolutions, and the surroundings of the birds. In short, he wrote with a spirit so loving that one cannot but admire. The science of ornithology has made wonderful strides since 'The Birds of America' appeared, and it may be argued, when the data are so full, and so many facts, then unknown, now require mention, that space forbids attention to the spiritual side of the charming study. If so, I shall claim that the admission proves my previous point, and that in spite of our advanced knowledge, our trinomials, our excessive subdivision, our flutterings from one name to its older synonym, and all the other abominations which the learning of our writers has forced upon them, they illustrate a decline in their art, and must bestir themselves to shake off the dust of museums and to draw fresh inspiration from a humbler devotion to nature, for herself.

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* *Vide* The Water Birds of North America, Vol. I, p. 184 (Little, Brown & Co., Boston, 1884).

Very respectfully,
R. G. HAZARD, 2D.

The Acorns, Peace Dale, R. I.,
May 27, 1884.

[Our correspondent, we fear, fails to distinguish clearly between the *science* of ornithology and the *sentiment* of ornithology — both legitimate in their way, and not necessarily antagonistic, though not always compatible. The love of the beautiful for its own sake is praiseworthy, and to lose sight of the spiritual in nature is to miss some of the highest pleasures of which our lives are susceptible. The graceful forms of birds, their exquisite tints, the melody of their songs, the beautiful economy of their lives, appeal to our senses with a power not easy to resist, much less to ignore. Every true naturalist shares their enjoyment, as well as the school-boy, the poet, and the field-naturalist, whose real knowledge of the structure of birds, their relations to each other, to their environment, and to nature in the broader sense, rarely passes beyond the stage of admiration and enjoyment, which will ever vary in intensity with the temperament of the individual. The 'closet' or 'museum' naturalist begins his studies as an enthusiastic lover of nature — is inspired by this love to seek out her mysteries — but whose devotion to the minutiæ of the problems presented blunts, perchance, his appreciation of the poetic and the sentimental. His pleasure in the objects of his study is not less than before, but is different in kind. His enthusiasm has found a new channel; his pleasure is that of discovery superimposed upon admiration and sentiment. The dry details of anatomical structure — external and internal — are pregnant with meaning, which the non-investigating 'lay' mind fails to see, or, if seeing, to interpret and appreciate. Such fundamental questions as the origin of life, the differentiation of its forms, the evolution of species, and their inter-relationships, interest him less than the peculiarities of habits or song a given species may present.

To do any piece of work we must have tools, and must also know how to use them. To mention objects, or their parts, we must have names for them, and in most cases the names have to be provided. The usual lay vocabulary is insufficient, and names must be invented, both for the objects and, to a large extent, for the parts, even if the object be merely a bird. The lay mind takes no note of the minuter structures and, therefore, has for them no designations. Yet they are the elements the scientific mind has most largely to deal with, and which afford the key to many a difficult problem. As names must be invented, it matters little whether they be derived from the vernacular or a classical language, as in either case they would be new and unfamiliar and would have to be learned. In point of fact, however, the vernacular tongue is a poor mint for the coining of the needed terms, and recourse is naturally had to the classical languages — the languages, for many reasons, *par excellence* those of science — whose resources more readily meet the emergency. As regards the names of species of animals or plants, but a small proportion are ever recognized in any vernacular tongue, because unknown to the average layman. When discovered and made known by science, a vernacular name is often invented for them, as well as a scientific one. Yet many of the most remarkable and familiarly known animals and plants never acquire a name other than the scientific one, compounded of Latin or Greek, which the laity adopt in common with scientists, and never even dream that they are using the technical language of science. Hippopotamus, rhinoceros, and the names of many of our ornamental plants are cases in point. The scientist easily acquires familiarity with the terms of his science, even in cases where there are vernacular equivalents, and from habit of thought almost unconsciously introduces them into his conversation or writings—often, we must say, unadvisedly and perhaps indefensibly.

Now it happens—in many cases most unfortunately—that the same animal, or the same organ, or the same condition of structure, may have several names,—just as in our own vernacular we have several names for the same thing, or the same bird, or, still worse, the same name for different things, as is again unfortunately sometimes the case in scientific terminology. But in case of the latter — as we have not in the other — we have rules for determining which is the correct and proper term to be used, especially as regards the names of animals and plants, and also for the proper construction of these names. But as regards the construction of names all writers are not equally skillful, and hence the desire on the part of the philologically skillful to correct such names as have not been correctly formed. But so great has the evil of emendation itself become, that the tendency is now toward the acceptance of names as originally formed, unless they display an error of an obviously or known typographical character. So that this part of the evil is likely to eventually cure itself.

It has happened that naturalist have, unwittingly, repeatedly described and named animals that had been named before; also the same animals have been named nearly simultaneously by naturalists of different countries. As the same species can have only one name, and as the same name cannot be used for different animals (to speak, for the sake of brevity, in general terms) without creating great confusion and uncertainty in regard to what is meant, it is necessary to have a rule by which to determine which name shall so be used. This rule is *the rule of priority*, adopted by naturalists the world over.

This rule provides that the name first given to a genus or species shall be the name to which it is entitled, and by which alone it should be known, subject to the single condition that it had not been used for another genus in the same kingdom, in the case of a generic name, or to another species in the same genus, in the case of a specific name. But a name may have gained a currency to which it is not entitled, in consequence of an earlier name having been overlooked, owing to obscurity of publication or other causes. As fixity of names is the prime desideratum in our nomenclature, we must not only have fixed rules for determining the tenability of names, but must adhere to them inflexibly, otherwise the shuffling of names would never cease.

Just at the present time 'The Auk' is bristling with these technicalities of nomenclature, which so naturally disgust the lay mind. And why? Simply because the 'closet' or 'museum' ornithologists of this country wish to settle at once, and if possible forever, as regards North American birds, these vexed questions of synomymy, in view of the proposed new A. O. U. List of North American Birds. The end in view is not the upsetting of names for the mere sake of upsetting them, or for any personal ends or ambitions, but simply and purely to secure a stable foundation for the future. We are simply repairing our tools and setting in order the great North American ornithological household.

We are quite aware that a considerable number of our readers share the 'lay view' of the case, as presented by our correspondent, and we even sympathise with them in their disgust, but beg to assure them that it is just such discussions of abstract and dry details of nomenclature that advance, in a certain necessary way, the *science* of ornithology; although nomenclature is not in itself science, but merely one of the indispensible tools of science.—J. A. A.]

NOTES AND NEWS.

SOME weeks since we received Heft I of the new quarterly journal of ornithology—'Zeitschrift für die gesammte Ornithologie'— published at Budapest, and edited by Dr. Julius von Madarász. It is large octavo in form, and the present number consists of 74 pages and two colored plates. The articles are mainly written in German, but there are also several papers in Hungarian and one in English. The matter relates mainly to Hungarian ornithology, but contains a paper of eight pages by Dr. L. Stejneger on the Wrens of the subgenus *Anorthura*, which we shall notice more fully later. Dr. E. F. von Homeyer, in a short opening article, proposes to cut the 'gordian knot' of nomenclature by the general adoption of a rule providing that specific names which have been in general use for a considerable period — say twenty years — shall not be subject to alteration; but we fear the practical difficulties of such a scheme have not been carefully weighed by the suggester of this supposed easy way out of the difficulty.

The editor, in his preface, states that the 'Zeitschrift' will be devoted especially to Hungarian ornithology, and to an exposition of the ornithological riches of the National Museum at Budapest. The colored illustrations, of which there are to be not less than two in each number, will give figures of hitherto unfigured species, even if not recently described.

—We have received specimen pages of a work now in press entitled 'Our Birds in their Haunts,' by the Rev. J. H. Langille. The work — an octavo of about 560 pages — will be published by S. E. Cassino & Co., of Boston, and will contain a popular account of all the species of common occurrence east of the Mississippi River.

—Two numbers of a monthly 'Bulletin of Massachusetts Natural History,' published by W. A. Stearns, Amherst, Mass., have appeared. It is only to a small extent ornithological, and, judging by the opening numbers, will not take a high stand, weighed from either a literary or scientific standpoint.

— Mr. S. H. Scudder has placed zoölogists under a lasting debt of gratitude by the publication of his 'Universal Index to Genera in Zoölogy,' which has just appeared. It is scarcely within the range of possibility that such a work should be faultless, or that its 80,000 names should include all the names that should be found in it. At present it is a list of the names given by Agassiz and Marschall in their 'Nomenclators,' by Mr. Scudder himself in his 'Supplemental List,' and in the 'Zoölogical Record' down to 1879. Dr. Stejneger, on a preceding page of this number of 'The Auk,' alludes pointedly to its incompleteness for ornithology. But probably no one is more keenly aware of its imperfections than the author himself, who, in the preface to his 'Supplemental List,' published in 1882, says: "That the list is far from being fully complementary, the compiler has had ample proofs since the completion of the appendix. When, indeed, such common generic names as Homo and Musca have escaped entry until now, he cannot anticipate that he has been much more successful than his predecessors." As the Smithsonian Institution, by whom the work is published, propose hereafter to issue decennial supplements to this list, and as the author appeals to zoölogists for information concerning names omitted from the 'Universal Index,' that they may be included in the contemplated supplements, we trust that, in the interest of zoölogy at large, he will meet with such hearty coöperation that the first supplement will go far toward making the 'Index' thoroughly complete. A collation of several pages of the index to generic names given in Gray's 'Hand-list of Birds,' published in 1871, with the present 'Index' shows that from 25 to 30 per cent. of even the names given by Gray (this does not include orthographical variations of the same name) do not appear in the 'Universal Index.'

—We regret to announce that the publication of the 'Quarterly Journal of the Boston Zoölogical Society' has been suspended.

—VOLUME I of the 'Water Birds of North America,' by Baird, Brewer, and Ridgway, has already appeared, and Volume II, completing this valuable work, will be published in September. The first volume, beginning with the Herons, carries the subject through the Herodiones, Limicolæ, Alectorides, and Phœnicopteri, and into the Anseres as far as the genus *Querquedula*, and contains 537 pages, 135 illustrations of heads, and 68 full-length figures. It is issued in two editions, the one with the figures plain, the other with the figures hand-colored. Little, Brown & Co., Boston, are the publishers.

—AT the last meeting of the National Academy of Sciences, held in Washington, April 15-18, Dr. Coues addressed the Academy in scientific session on the application of trinomial nomenclature to zoölogy, basing his remarks upon the uniform practise of American ornithologists in this matter, and arguing for the expediency of the general adoption of trinomials in zoölogy upon the definite principles already recognized and acted upon by the 'American School' of ornithologists. Dr. Coues also introduced a resolution in business meeting of the Academy, that a committee be appointed to consider the subject of zoölogical nomenclature, with reference to the establishment of a more uniform system. The resolution was seconded by Professor Gill, and referred to the Council of the Academy, whose action will be awaited with interest by all our ornithologists.

—WE have received from A. Bogardus & Co., New York, a panel photograph, ten inches by twelve, of the founders and officers of the A. O. U. The group as a whole is very satisfactory, most of the figures being excellent.

— DR. Elliott Coues sailed for England on May 24, where he will spend several months, partly for purposes of research and partly for recreation.

—WILSON Flagg, well-known as the genial author of 'The Birds and Seasons of New England,' 'The Field and Forest,' 'The Woods and By-Ways of New England,' etc., and a keen and appreciative observer of nature, died in Cambridge, Mass., May 5, in his eightieth year, after a long and painful illness. Mr. Flagg received his education at the Andover Phillips Academy and Harvard College, and for many years was an occasional contributor to the 'Atlantic' and other magazines, where his essays on natural history subjects, afterwards gathered in the books abovenamed, originally appeared.

— EDGAR A. Small, of Hagarstown, Md., an Associate Member of the A. O. U., died at that place April 24, 1884, in the twentieth year of his age. Mr. Small, although for some years a sufferer from spinal disease, resulting from an accident, was widely known as a young ornithologist of much promise.

— HENRY G. Vennor, of Montreal, died in that city June 8, 1884, at the age of 44. Mr. Vennor was an Associate Member of the A. O. U., and well-known as one of the leading ornithologists of Canada. Besides various [illegible] quartz will [illegible] 1887 [illegible] prediction [illegible]

— Mr. [illegible] take charge [illegible] make [illegible]

— The [illegible] *[illegible]* [illegible] still unknown.

— Capt. [illegible] collection of North American [illegible] at the National Museum.

— The Fish Commission [illegible] cruise among the islands [illegible] America. [illegible] Messrs. J. L. Benedict and W. [illegible] islands not previously visited [illegible] of the [illegible] were also secured. [illegible] Proceedings of the National Museum.

— The [illegible] Committee on Migration of Birds [illegible] observers, of which [illegible] are in Canada. [illegible] large number of light-house keepers [illegible] tion.

— At the April meeting of the [illegible] a paper by Dr. W. J. Hoffman [illegible] D. C., on Indian [illegible] names was read [illegible] Comm. on the migration of [illegible] of 1887. [illegible] were exhibited by Mr. [illegible] June 4, the society was [illegible] and the following officers were elected: President, E. T. [illegible] Secretary [illegible] Frank L. Rose. Mr. [illegible] Australia, exhibiting specimens [illegible] tivity.

—THE First International Congress of Ornithologists was held in Vienna, April 7-11, under the patronage of the Crown Prince, Rudolf. Among the 130 ornithologists present were delegates from nearly all the nationalities of Europe, including a large number of ornithologists of world-wide reputation. But there were no delegates from England or the United States. The Congress organized in three sections, which held simultaneous sessions. Section I considered the subject of international bird-protection legislation. After long deliberation the section voted to recommend the adoption by all nations of (1) a law forbidding the destruction of birds otherwise than by shooting, and then only with legal permission, during the first half of the calendar year, and (2) the wholesale slaughter of birds at all times. Section II had under consideration the subject of the origin of domesticated birds, and also improvement in methods of of bird-rearing, and made various recommendations in reference to these objects. Section III devoted itself to the elaboration of a scheme for the establishment of coöperative bird observation stations throughout the world. Various recommendations were adopted in regard to the details of the plan, and an International Committee was appointed to facilitate the work. This committee was constituted as follows: Russia, Dr. L. von Schrenck, Dr. G. Radde, Dr. J. A. Palmén, and Dr. Bogdanow; Austro-Hungary, Count V. von Tschusi, Dr. J. von Madarász, and Dr. Brusina; Germany, Dr. E. F. von Homeyer, Dr. A. B. Meyer, and Dr. R. Blasius; France, Dr. Oustalet and Prof. A. Milne-Edwards; Italy, Dr. H. H. Giglioli, and Prof. T. Salvadori; Switzerland, Dr. V. Fatio and Dr. Girtanner; Norway, Dr. R. Collett; Sweden, Count Thott; Denmark, Prof. C. Lütken; Belgium, Baron de Selys-Longchamps and Dr. A. Dubois; Holland, Dr. F. Pollen; Portugal, Dr. Barboza du Boccage; Greece, Dr. Krüper; Servia, Dr. Dokic; Japan, Capt. Blackiston; England, Messrs. Harvie-Brown, Cordeaux, and Kermode; Australia, Dr. E. P. Ramsay; New Zealand, Dr. W. L. Buller; British India, Dr. Anderson and Da Cunha; Java, Dr. Vordermann; Brazil, Baron Carvalho Borges; Chili, Prof. R. A. Philippi; Argentine Republic, Dr. H. Burmeister and Dr. Berg; United States of North America, Dr. C. Hart Merriam and Dr. Elliott Coues.

At the same time was held a General Ornithological Exhibition, embracing upward of 1600 entries, including a rich selection of common fowls, Ducks, Geese, Pigeons and ornamental birds, native Song-birds, exotic birds, and wading and swimming birds. There were also shown many very interesting bird-skins and stuffed birds. The exhibition also included ornithological literature. Special mention is made in the report of the Congress, of two very interesting manuscript maps, prepared by Dr. Reichenow, showing the distribution of single families, genera, and species of birds over the whole world.

Social intercourse and festivities added greatly to the enjoyment of the occasion; and the delegates separated in the hope that the next International Ornithological Congress, to be held at Luzern, Switzerland, in 1877, would prove as satisfactory as had the one just held at Vienna.

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THE CANADA GOOSE (*BERNICLA CANADENSIS.*)

BY JAMES P. HOWLEY.

ONE of the chief game birds of Newfoundland is the Canadian Goose (*Bernicla canadensis*). When I term it a game bird I might state that owing to the peculiarity of its habits, or perhaps to the physical character of this country, few Wild Geese fall to the gun of our sportsmen proper, who confine themselves chiefly to Grouse hunting, and the shooting of smaller game. The labor and difficulty of access to the true breeding grounds of the Wild Goose, in the far interior, effectually protects it, and it is only during the spring and fall migrations that any appreciable number are killed.

This Goose is a regular annual visitant to Newfoundland, coming along from the southward in the early spring, arriving here in the month of April, remaining during the breeding season, and again taking its departure about the latter half of October. They breed abundantly on this island, depositing their eggs in very simply constructed nests, of dried leaves and grass, on the islets in the bog holes or tarns, which so plentifully dot the large peat savannas prevailing over considerable areas of the interior. They generally select localities for the purpose of incubation not far removed from the margin of some of the numerous streams and brooks which intersect the island in all directions, and have their outlet in various arms and inlets which indent the shores of our island on every side. To these latter they invariably conduct their young broods as soon as they become strong enough on the wing, and for some time prior to taking their departure they frequent these fiords, where an abundant supply of food is obtainable. A long, slender, reed-like grass, which grows most luxuriantly in the shallow, brackish waters, known as goose grass, is the especial attraction in these places.

Not having had the good luck to have ever actually seen a Wild Goose's nest myself, I am unable to say positively how many eggs they lay, but judging from the numerous broods of young goslings I have time and again come across, I should say they rarely exceed half a dozen. The eggs are white, somewhat smaller than those of the tame Goose, and more elongated in form.

At this point I would venture to correct a mistake made in a very interesting and instructive work entitled 'Game Birds of the United States,' by Thomas Alexander, author of 'Fish and Fishing,' published in the United States in 1879. Writing of the Canada Goose, Mr. Alexander says: "He comes up from the south with the earliest spring, bravely making the longest known migrations in search of a breeding place. How far north he goes before his particular taste in this matter is satisfied is unknown, *for no mortal eye has yet gazed upon the breeding places of the Canada Goose.*" This is an egregious error, as any one in this country having the remotest knowledge of its wild-fowl can easily demonstrate.

The Canadian Goose undoubtedly does find its way to more northern regions, even perhaps beyond the limits reached by the most famous Arctic explorers, and perhaps has solved the problem that has baffled and defied generations of the hardiest navigators, but I opine the summer season within the Arctic Circle is of scarcely sufficient duration for the incubatory purposes of birds which require six months to mature.

No matter what high latitudes the Canada Goose may have been observed in, it is well known to breed here every summer. It is quite a common practice with the fishermen in the outlying settlements to make expeditions into the country in spring, in search of the young broods of Geese, which they frequently capture and bring out before they are able to effect their escape.

The eggs also are frequently taken away, and afterwards placed under a tame Goose to be hatched. The young so captured are easily domesticated, becoming exceedingly tame, and presenting in this respect a great contrast to the same bird in its wild state. When reared they are sold to amatuer poultry fanciers in the Capital and elsewhere, where good prices are realized for them. At any season of the year, even now in mid-winter, numbers of these domesticated Wild Geese may be seen in the poultry yards about St. John's. They breed in their captivity both *inter se* and with the common domestic Goose, producing a hybrid bird much esteemed for the table.

While all other birds are protected here by a strict game law, which establishes a close time and heavy penalty for its infraction, Geese alone are excepted, simply not to interfere with the small source of emolument derived by the fisherman from the capture of the young birds and eggs, as I have described. It is considered that the migratory and wary character of the bird prevents any appreciable injury resulting from this course. Still, the morality of legalizing such an interference with any animals valuable to man, during their procreative period, is, to say the least of it, very questionable.

During the breeding season they moult the primary wing- and tail-feathers, and are consequently unable to fly in the months of June, July, and the early part of August. They keep very close during this moulting season, and are rarely seen by day; yet I have frequently come across them at such times in the far interior, and on many occasions have caught them alive. When surprised on some lone lake or river side, they betake themselves at once to the land, and run very swiftly into the bush or tall grass to hide. But they appear somewhat stupid, and if they can succeed in getting their heads out of sight under a stone or stump, imagine they are quite safe from observation. When overtaken in the water, and hard pressed, they will dive readily, remaining a considerable time beneath, swimming or running on the bottom very fast. About the 15th of August the old birds, and most of the young ones, are capable of flight, and from thence to the first of September they rapidly gain strength of wing. Soon after this they betake themselves to the seaside, congregating in large flocks in the shallow estuaries or deep fiords, to feed during the night-time, but are off again to the barrens at earliest dawn, where they are generally to be found in daytime. Here they feed on the wild berries, of which the common blueberry, partridge berry, marsh berry, and a small black berry (*Empetrum nigrum*) afford them an abundant supply. They are exceedingly wary at this season, and there is no approaching them at all on the barrens. The only means of getting a shot at them, and that usually adopted by the fishermen, is to erect a kind of blind, termed a *gaze*, near the margins of the estuaries or lagoons most frequented by the birds, and within easy range of their favorite resting places. The gaze is formed of a rough, semi-circular framework of bush and small trees, inside of which a couple of persons may lie concealed. This contrivance must be constructed prior to the time when the birds are expected to arrive, so that they may see and become familiar with it, otherwise, such is their suspicious nature, they would leave the place altogether, or at least avoid the immediate neighborhood of the gaze, keeping well out of shot. If unsuspicious of danger they will swim about in close phalanx, and when within easy range, the concealed hunters pour heavy charges of large shot from their huge sealing-guns into them, and frequently do great execution. The long and patient watch during a cold October night, however, takes away much of the pleasurable element from this rather unsportsmanlike mode of hunting, and as a consequence few resort to it except the hardy fisherman and patient Indian, to whom the killing of a few couples of Geese means a good night's work. I have myself frequently tried to steal a march upon the Geese during a dark night in a canoe, but never succeeded in getting within shot.

During the spring migration a nearly similar plan is adopted by the fishermen to that described above, the only difference being that the gaze is erected on the ice, near open water, in our bays and fiords, the gaze itself being built of blocks of ice and snow. When the Geese alight in these open places during the night, they will swim along by the edge of the ice, picking the goose grass which may be washed up against it, quite unsuspicious of danger till they are suddenly fired upon from the ice gaze. A great number are sometimes killed in this way.

I am credibly informed that many of these first arrivals, when opened, have been found to contain undigested grains of Indian corn. This circumstance I think argues strongly in favor of the very rapid flight of the bird northward; the grain, I presume, being picked up either in the southern or midland States of the American Union. They are a very powerful bird on the wing. Rising at first slowly from the water, they fly rather low for a time, but soon ascend, and, forming a hollow wedge or V, with an old gander at the apex, continue for long distances before again alighting. About the last of October they are generally all gone, but I have heard of stragglers being seen even in mid-winter.

BIRDS OF THE LOWER URUGUAY.

BY WALTER B. BARROWS.

(Concluded from p. 278.)

184. **Charadrius virginicus** *Borkh.* CHORLO (PLOVER).—Seen only in the neighborhood of Bahia Blanca and the Sierra de la Ventana from February 8 to March 19. During most of this time it was abundant in flocks of twenty to two hundred individuals, and for the first week or two all the larger flocks were moving pretty uniformly in a south or southwesterly direction; a fact which I could account for only by supposing that the plains of Patagonia must offer some strong attraction in the way of food at this season.

185. **Eudromias modesta** (*Licht.*). CHORLITO (LITTLE PLOVER).—Taken but twice at Concepcion, viz., April 29, and May 6, 1880; while a few specimens, either of this or the following species, were observed on the pampas during March and April, 1881.

186. **Ægialitis falklandica** (*Lath.*).—One specimen, Concepcion, April 30, 1880, and the doubtful observations mentioned under the preceding species.

187. **Ægialitis collaris** (*Vieill.*). CHORLITO (LITTLE PLOVER).—Rather abundant at Concepcion in March and August, in small flocks all over the open country. Probably a few winter there.

188. **Himantopus nigricollis** *Vieill.* ZANCUDO (LONG-LEGS).—Abundant at Concepcion only from March until August, though a few linger later. At Azul, January 31, 1881, it was quite plenty in small flocks, and at Puan, March 28, 1881, a pair or two were seen. Where it breeds I do not know.

189. **Gallinago paraguaiæ** (*Vieill.*). BECASINO (SNIPE?). —Extremely plenty at Concepcion during cold weather; less so in summer, but many remain to breed. A set of three eggs was taken September 16, 1880, and two eggs from another nest on October 12. Both nests were slight hollows in the ground, with a few bits of straw and grass for lining. The eggs are as much like those of *G. wilsoni* as are the birds themselves; that is to say, very similar indeed. During the winter the Snipe collected in some of the marshes to the number of thousands, and often twenty or thirty would rise at the report of the gun and circle about in a loose flock before settling again. They were abundant at Carhué early in April.

190. **Rhynchæa semicollaris** (*Vieill.*).—This peculiar bird, combining characters of both Snipe and Rail, is an abundant resident at Concepcion where it breeds.

On September 18, 1880, I found two sets of two eggs each, laid without any attempt at a nest on the bare ground close to the edge of a marsh. The eggs, which were much incubated, were of nearly the same size at both ends and resembled quite closely, both in shape and coloration, the eggs of our common Nighthawk (*Chordiles virginianus*), the ground color being almost obscured by a profusion of heavy dots and blotches of dark brown and black. The sitting birds flew directly from the eggs without any attempt to lead away from them. I usually found these birds abundant in the same meadows with the Snipe, often flushing both at the same time.

191. **Tringa fuscicollis** *Vieill.* MBATITUÍ (Indian name). —In small squads or large flocks at the same times and places as the following species.

192. **Tringa maculata** (*Vieill.*) MBATITÚ (Indian name). —Common in flocks at Concepcion through the larger part of the year. only absenting itself from the middle of November to the middle of January, and even then a few may usually be found. They are almost always in company with the preceding species, often forming flocks of several hundred individuals. Where

they go in the summer I do not know, but they were abundant at Carhué and neighboring places in March and April.

193. **Totanus melanoleucus** (*Gm.*). Chorlo (Plover). — Occurs sparingly at Concepcion every month in the year, but in increased numbers during August, September, October and November.

Birds taken during August and September were for the most part in worn plumage and quite thin; those taken at other times seemed to be in much better condition; but I never found any which showed evidence of any nearness to the breeding season. I believe that part of these are birds bred in North America, and the rest are natives of the southern pampas of Patagonia. They were abundant at Azul, January 25 to 31; at Bahia Blanca one was seen on February 8; I heard them at Puan March 28, and they were numerous at Carhué the first week in April.

194. **Totanus flavipes** (*Gm.*).— Usually noted with the preceding, but none were seen at Concepcion during May, June, and July, 1880. At Azul they were quite plenty January 28, 1881.

195. **Rhyacophilus solitarius** (*Wils.*).— In parties of two to six at Concepcion during August, September, and October. First seen there August 20, 1880. I saw a few between Buenos Aires and Azul on January 25, 1881.

196. **Actiturus bartramius** (*Wils.*).—A common bird everywhere from November to April. Especially abundant about the vast swarms of 'locusts' which were sweeping the country in 1879 and 1880. During December, 1880, I frequently saw thousands of the birds in the compass of a very few acres. They were all in rather poor plumage, but many of them quite fat. In habits they were precisely like the same birds here, except that I several times saw single birds balancing themselves for a few seconds on the tops of bushes, which I do not remember noting before. That this species regularly ranges from the United States to the pampas I no longer have any doubt. The same may be said of the last three species mentioned and the one following, with this single difference, that while I am pretty well satisfied that some individuals of *Totanus melanoleucus* breed on the pampas or in Patagonia, I found no evidence that any of the other species mentioned do so. They seem to be simply visitors from the northern hemisphere, spending the time between breeding

seasons in a country which affords them a congenial climate and an abundance of food. For a discussion of this matter from a sportsman's point of view the reader is referred to an article by W. Hapgood in 'Forest and Stream,' Vol. XVII, Oct. 20, 1881.

197. **Numenius borealis** (*Forst.*). — First seen at Concepcion, September 9, 1880, in large flocks. After the middle of October none were seen there, but after leaving Azul for Bahia Blanca it was seen almost daily on the pampas in company with the Golden Plover and Bartram's Sandpiper until late in February. After March 1 none were met with.

198. **Sterna superciliaris** *Vieill.* — A single female was taken at Concepcion, October 14, 1880.

199. **Sterna magnirostris** (*Licht.*). GAVIOTITA (LITTLE GULL). — A pair seen, and female taken, at Concepcion, September 9, 1880. They were following up a small sandy stream hunting like Kingfishers.

200. **Larus dominicanus** (?) *Licht.* GAVIOTA GRANDE (BIG GULL). — A Gull about the size of our Herring Gull (*L. argentatus*) was abundant on the pampas during February 1881, and probably it was the same species which frequented the salt 'lagunas' at Puan and Carhué during March and April. As no specimens were secured I refer it to *dominicanus* with some hesitation.

201. **Larus cirrhocephalus** *Vieill.* GAVIOTA (GULL). —Apparently resident at Buenos Aires, but only common at Concepcion in winter. During May, June, and July, however, it was common in immense flocks, wheeling about the *saladeros*, or slaughter houses, alighting anywhere to pick up food, and usually gathering in great companies at midday to sit preening their feathers and gossiping for an hour or two in the sun on some grassy spot well back from the river.

NOTE. — No attempt is made to enumerate here the various species of Gulls, Petrels, Shearwaters. etc., which abound in the winter months at the mouth of the river, but which I had no opportunity of collecting or studying.

202. **Æchmophorus major** (*Bodd.*). — Not uncommon at Concepcion during cool weather, both on the river and on smaller streams. My dates range from March 25 to September 26. One, which I shot on June 29, had only long, fine, water-grass in the stomach, not even the smell of fish.

A few birds of this species were seen in the salt lakelet of Puan March 27, 1881. In many places they are much hunted for the skins, which form quite an article of commerce at Buenos Aires.

203. **Podiceps rollandi** *Q. et G.*—First met with on the Napostá Chico, Feb. 23, 1881. This is a small stream rising in the Sierra de la Ventana and vanishing in the sand after a course of fifteen or twenty miles. It contains but one species of fish, a small 'chub,' which is also abundant in most of the ponds of the country. Many of the pools of this stream have a depth of twenty to thirty feet, and, lying between perpendicular banks of twice that height, were not easily accessible. Here several of these beautiful Grebes swam in perfect safety; and we met with them again in similar places on the Pigué and Sauce Chico. A few were seen at Carhué in April.

204. **Rhynchotus rufescens** (*Temm.*). PERDIZ GRANDE (BIG PARTRIDGE).—Also called *Martinete*, as is also the crested Tinamou (*Calodromas elegans*), which is found further south. The present species is a rather common resident at Concepcion, where is breeds. It frequents long grass and dense growths of creeping vines and brambles, but avoids equally the open grazing grounds and the wooded stretches. It runs with surprising speed, and is very difficult to flush without a dog, but once started flies straight and strong. But, as has been repeatedly noticed by Hudson and others, its second flight is much feebler, and if forced to rise for the third time it soon drops and can then be easily caught by a dog. Its ordinary call consists of four or five mellow notes closely resembling the call of the Baltimore Oriole, and for months I failed to attribute it to its true source. The eggs, four in number, are always laid on the ground in a rude nest of grasses, etc. They are about the size of a hen's egg, of a beautiful, purplish-chocolate color, and with a polish not met with outside this family.

It would be difficult to find an egg which could compare in beauty with those laid by this bird. The species was more or less plenty at all points on the pampas. Its flesh is not particularly good, but is a vast impovement on the dry, tasteless flesh of the following species, which, nevertheless, is highly prized because it is white!

205. **Nothura maculosa** (*Temm.*). PERDIZ (PARTRIDGE).—This tail-less little bird, hardly bigger than *Ortyx virginianus*,

is an abundant resident all over the Argentine Republic. The only wonder is that it continues to be so abundant, for it is easily snared in many ways, and is hunted in every possible manner, while, according to the best evidence at hand, it rarely lays more than four eggs in one nest, and only raises one brood in the season. This is emphatically a bird of the fields and pastures, and usually avoids the long grass and the weedy low grounds. It prefers to run rather than fly, but is a strong bird on the wing, and practically tireless.

The eggs are miniatures of those of the preceding species, and are laid in make-shift nests on the ground from October to December. Near Bahia Blanca I found a nest containing fresh eggs on the 10th of February, but this must have been an unusual case, and probably due to accident.

206. **Calodromas elegans** (*d'Orb. et Is. Geoffr.*). MARTINETE. (A term applied in Spain to a Heron or its plume. Here it undoubtedly refers to the long feathers of the crest.)— Unlike the species just described. this one is always found in small parties, and usually running in single file. In the neighborhood of Bahia Blanca it was not uncommon, but it was not elsewhere met with, being confined pretty rigidly to the shrubby country bordering the pampas on the south and west. The eggs are polished, but of a greenish tint, and are said to be commonly five or six in number. The flesh is fairly palatable.

207. **Rhea americana** *Lath.* AVESTRUZ (OSTRICH).— Abundant only where protected, then multiplying rapidly. About Concepcion it is semi-domesticated, but of little importance, as its feathers are fit only for dusters or rugs, and the best grades bring only about two dollars per pound.

At Concepcion a well-feathered old male will yield about two and one-half pounds of feathers if killed for them alone.

At Puan, where the Indians live mostly on mare's meat and Rheas, I was told that a first class Ostrich yielded from three to four pounds of feathers of the average value of ninety cents per pound. During our stay at this wind-swept and desolate place about two hundred Indians united in a two-day's Ostrich-hunt, resulting in the capture of about sixty birds of all sizes from the full grown adult down to two-month 'chicks.' They begin by beating over a large tract of the plain and then closing in around the game started. Stout greyhounds are used to good purpose.

usually pulling down the swiftest birds within two miles at farthest. The Indians use the *bolas* with much skill, the one used for Ostriches consisting of two half-pound leaden balls connected by eight feet of twisted rawhide twine. Whirling this about the head and 'letting fly' at the running bird they often entangle his legs at a distance of thirty to fifty yards, and I was *told* that it was frequently done at one hundred.

Single hunters stalk Ostriches sometimes in the following way: Getting to windward of the bird the latter soon scents him and lies down, only sticking up his head above the grass. The hunter may then creep directly up within shot if the grass be long enough to shelter him, and the bird is shot through neck or head before he rises. So many stories have been told of the breeding habits of these birds that I could probably add nothing of value myself, so I append the following, which was told me by a young man who was born and brought up among Ostriches. When an Ostrich has built a nest and laid the full number of eggs, she is naturally anxious to be able to find the nest again after having wandered away to any distance. This she manages by simply laying eggs at intervals of half-a-mile or so over the adjacent country, placing each egg with its smaller end pointing directly toward the nest!

Before closing this paper I wish to return my grateful acknowledgements to Mr. J. A. Allen and to Dr. Hermann Burmeister of Buenos Aires, for the determination of most of the species herein described, and for much invaluable assistance of every kind. My thanks are also due to Mr. Geo. N. Lawrence for similar services. I take this opportunity also of returning thanks to Dr. P. G. Lorentz of Concepcion for indispensable aid in the collection of notes and specimens from the pampas, and to Professors Seekamp, Alió, and Dr. Quesada, of the Colégio Nacional at Concepcion, for many specimens and much information on the species of that region.

MIDDLETOWN, CONN.,
MAY, 1884.

ON SOME NEW TERMS RECOMMENDED FOR USE IN ZOOLOGICAL NOMENCLATURE.

BY PROFESSOR COUES.

I HAVE certain new terms to define and recommend for use in zoölogy — some, as desirable substitutes for inelegant or inept words now employed; others, as convenient names for ideas or things not now expressed except in paraphrase. I refer to the word ONYM and its compounds and derivatives. Onym is simply anglicized from ὄνυμα, *nomen*, 'name.'

Zoölogists constantly speak of the 'binomial' nomenclature, or 'binomial' system of naming. A name of two terms is called a 'binomial'. An object so named is 'binomially' entitled. The agent in such cases is a 'binomialist.' The principle involved is 'binomialism,' or 'binomiality'. And so on. Extension of this practise has led us to commit the verbal bastardy of 'mononomial' and 'polynomial,' in speaking of names consisting respectively of one or several terms, or in speaking of a system of nomenclature in which objects are designated by one or several terms. Then we also have 'polynomialist', etc.

The objections to 'binomial', etc., are several. It does not fairly and fully express what we mean. It does not readily yield an eligible noun and verb. It does not easily enter into several desirable compound words of collateral signification. It is curiously related to, and generally confounded with, a different word, 'binominal.' It is preoccupied, so to speak, in algebra, in which science it has a special and appropriate signification.

Perceiving sundry objections to 'binomial', some have sought to obviate them by using 'binominal', 'uninominal', 'plurinominal', etc. But such terms are also ineligible, on several counts. Like 'binomial', they do not readily yield collateral words, especially the desired noun and verb. Secondly, the tautology of 'binominal name', for instance, is evident. Thirdly and chiefly, 'nominal' and its derivatives have acquired in English a special meaning, as the opposites of 'real' and its derivatives. Thus, a 'nominal' species is the opposite of a 'real' or true species; it is, in short, a figment; and though we do say, for instance, a 'nominal list of species', meaning a list consisting only of the names of species, it is unlikely that 'nominal' and its derivatives will be much used in their proper etymological sense, they being too closely wedded to the idea of unreality.

So we still need some words to express our thoughts clearly in speaking of our systems of zoölogical nomenclature in the abstract, and of their operation and effect in the concrete. But we have not far to seek. The word *onym* supplies the desiderata of brevity in writing, euphony in speaking, plastic aptitude for combinations, and exactitude of signification. That it well answers the purpose, and is already anglicized in several compounds, is seen in the words *synonym*, *pseudonym*, and their many derivatives. I would therefore suggest and recommend as follows:—

Onym, *n*. The tenable technical name of a species or other group in zoölogy, consisting of one or more terms applied conformably with some recognized system of nomenclature.

Onymy, *n*. The doctrine or practise of using onyms; nomenclature, in a proper sense.

Onymize, *v. i.* To make use of onyms; to employ a proper nomenclature; to invent or adopt tenable technical names in zoölogy.

Onymizer, *n*. One who, or that which onymizes; a nomenclator, in a proper sense.

Onymal, *adj*. Of or pertaining to an onym, or to onymy.

Onymally, *adv*. In an onymal manner.

Mononym, *n*. An onym consisting of a single term.

Dionym, *n*. An onym consisting of two terms.

Trionym, *n*. An onym consisting of three terms.

Polyonym, *n*. An onym consisting of more than three terms.

Anonym, *n*. A mere name; a 'nomen nudum'; a name resting upon no diagnosis, or other recognized basis.

Chironym, *n*. A manuscript name; an unpublished name.

Graphonym, *n*. An onym based upon a recognizable published plate, diagnosis or description.

Typonym, *n*. A name based upon indication of a type species, or of a type specimen.

Pseudonym, *n*. (In a special zoölogical sense.) A nickname; a vernacular name, inadmissible in onymy.

Synonym, **Homonym**, and their dirivatives, to be used in their current zoölogical senses. Other combinations and derivatives of onym might be suggested, but the above examples will suffice.

S. S. OREGON, MID-OCEAN,
MAY 27th, 1884.

A STUDY OF THE SINGING OF OUR BIRDS.

BY EUGENE P. BICKNELL.

(*Continued from p. 218.*)

Vireo flavifrons. YELLOW-THROATED VIREO.

THIS Vireo sings through July, August, and the early days of September. Records of song in some years are not closely consecutive during the middle weeks of July, and again towards the end of August; but usually occasional songs prevent any significant break in the record. If, however, the summer be exceedingly hot and dry singing may be suspended for weeks at a time.

Almost every year a few songs are to be heard in September, a week or two after singing has apparently ceased. In 1878 singing continued with some regularity until September 7, after which songs from single birds on the 12th and 18th were the last; in 1880 nothing was heard of the species between August 29 and September 12—on the latter date, as well as on the 17th and 18th, full songs being heard; in 1881, September 6 and 19 limit a hiatus in the record, though on the latter date, as well as on the 24th—my latest record—songs loud and full were heard. Mr. Brewster has observed somewhat similar habits of late song with this species at Cambridge, his latest record being September 11.

This is the only one of our Vireos which I have observed to sing while on the wing. On May 21, 1882, I observed a pair flying about among an open group of trees; one was being followed by the other: but their motions betrayed none of the excitement of pursuer and pursued: their flight was so easy and leisurely that it was almost restful to watch them. For more than a minute they continued slowly circling about among the trees, within a space of a few rods, passing in and out among the branches; several times the leading bird appeared about to alight, but feeling its pursuer close at hand continued its course. The rear bird was constantly giving utterance to its full song-notes, which fact probably accounts for its uninterested manner as pursuer; for it seemed so engrossed with the feat of singing during flight that it could give little heed to the chase. Both birds finally alighted peaceably among the branches, the follower alighting first.

Vireo solitarius. BLUE-HEADED VIREO.

This is one of the few migrants which are regularly in song while passing in the fall. Their characteristic, yet Virionine song is usually the first indication of their appearance, and the last of their presence with us. Its greatest range in time, in different years, is from September 18 to October 9. This Vireo also sings while passing northward in the spring.

Vireo noveboracensis. WHITE-EYED VIREO.

There appears to be no regular period of silence with this Vireo, which is more or less given to vocalism through its entire stay. In July and August, however, there seems to be a time of minimum vocal vigor, when singing is intermittent, and sometimes appears to cease briefly altogether; but there is no constant rule, the birds appearing to be much influenced by varying external causes. A severe drought, as with other species, is unfavorable to song, and during the exceptional aridity of the summer of 1881 singing seemed, at intervals, to be wholly discontinued. In September. or by late August, the normal vocal vigor is regained; and sometimes singing becomes very general late in September, shortly before its discontinuance with us, which dates from the 22d to the 30th, and is due to the departure of the bird.

This Vireo possesses greater powers of song than are generally accorded it. Perhaps its want of recognition as a vocalist is because it does not reveal its fullest capabilities in the spring when birds are expected to do their best. All through the spring and early summer we hear in low bushy places and on shrubby hillsides its brief and emphatic song, and though this has at least two distinct changes, greater variation is not often attempted. But it has another song which is almost wholly confined to the season of late summer and autumn. This is less vehement than the song of the earlier season, but more prolonged and of greater compass. It is a voluble and confused outpouring of singularly involved and varied notes, showing considerable power of mimicry, and of indefinite continuance. Some approach to this song is often noticeable in the ordinary songs of mid-summer, and sometimes it is actually produced early in July; but oftener it is delayed until August. In September it is frequent, and commonly is among the last songs heard. On a few occasions I have heard it in May and June, but these cases were wholly exceptional. In the autumn a change of habits is noticeable on the part of those individuals who have acquired the later song in its full complexity. No longer are these restricted to their earlier haunts amid hillside shrubbery and swampy undergrowth, which still harbor their less enterprising companions, but they are often to be found singing with full vigor amid the branches of tall trees, in the open, about the borders of woods, or even in cultivated grounds close about habitations.

On one occasion—July 28, 1878—I listened to a White-eyed Vireo rehearsing its common song with a rapidity that left no pause in its utterance. In its precipitate expression it soon lost control of the regular repetition of its strain, and the notes becoming sadly mixed, it desisted in confusion. It actually seemed as if it were experimenting to see how many separate songs could be thrown off in a given time.

Lanius borealis. GREAT NORTHERN SHRIKE.

While it is with us on its irregular and fleeting visits, this winter species does not often essay a greater vocal effort than a harsh note or scream. On occasions, however, it does actually sing; though probably never with its fullest power in this latitude. I have heard a variety of notes from it in October, on its first arrival, and in November; but its highest vocal achievement is in late winter and early spring. Its song may be one of the first that the spring can claim; for that indefinable change that comes into the atmosphere and the sunlight on some days of late winter and leads us to look springward, seems to be as quickly felt by this hardened and cruel bird as by the most tender species which it is wont to make its victims. An unusually vocal bird was observed on February 10, 1877—a morning when winter seemed quietly relaxing from long-continued severity. Perched in the sunlight, on the topmost spray of a tall oak, on an eminence commanding an expanse of changing landscape, it was alternately singing and preening its beautiful plumage. The song was a medley of varied and rather disconnected articulations, an occasional low warble always being quickly extinguished by harsh notes, even as the bird's gentle demeanor would soon be interrupted by some deed of cruelty.

It has been claimed that the Butcher Bird attracts birds and small animals by imitating their cries, thus making them its easy prey. It is true that notes similar to the screaming of small birds and the squealing of mice are interspersed through its song; but they are uttered without method, and sometimes actually in conjunction with the most harsh and startling sounds of which the bird is capable.

Hirundo erythrogastra. BARN SWALLOW.

An almost universal misconception regards the Swallows as a tribe of songless birds. But the Barn Swallow has as true claims to song as many species of long-established recognition as song-birds. Its song is a low chattering trill, suggestive of that of the Long-billed Marsh Wren, but often terminating with a clear, liquid note with an accent as of interrogation, not unlike one of the notes of the Canary. This song is wholly distinct from the quick, double-syllabled note which so constantly escapes the bird during flight; nor is it, as may be supposed, produced by the commingling of the notes of many individuals in a specie's highly gregarious. I have heard it repeated many times from single birds, often when they were perched alone on telegraph wires. It is also uttered during flight, and continues into August.

Hirundo bicolor. WHITE-BELLIED SWALLOW.

The song of this Swallow is hardly more than a chatter. This is to be heard as late in the year as the bird is with us. Its ordinary notes are less sharp and rapid than those of the Barn Swallow.

Pyranga rubra. SCARLET TANAGER.

With this brilliant bird, singing is continuous from the season of blossoms into mid-summer. After this time it is less constant and when August is well advanced is not longer heard. But during the last month of song the regularity of singing varies in different years. A record of each day when the song is heard will in some years be scarcely interrupted until the second week of August; in others it will show but a disconnected series of dates after mid-July. After early August singing is always uncertain, although straggling songs may extend the date of final cessation beyond the middle of the month. Conclusive songs occur at any time in the month up to the 20th. After the breeding season an abbreviation of the song, with some loss of emphasis, is noticeable, which usually has become more marked at the time of discontinuance.

Contrary to what is true of the Robin and some other birds, cool, wet weather seems to discourage singing with this species, and often on those sultry summer mornings which betoken the hottest days its song in full richness may be heard, though most of the other birds be silenced.

In October, toward the end of its stay, its only note is a single sharp *chip*, which, though an insignificant sound, when once known cannot be mistaken for the note of any other bird. Its ordinary call-note is likewise very distinctive. It is not often used after the close of summer, although I have heard it late in September. Speaking of this well know *chip-chir*, Mr. Fred. T. Jencks, of Providence, R. I., has called my attention to what is undoubtedly a clear instance of geographical variation in utterance. Mr. Jencks writes that he has observed that in "Illinois and Indiana it has three notes, *chip-chir-ree.*"

Changing from its spring and summer scarlet to autumn green, this bird goes curiously counter to the order of color change from spring to fall, which nature has adopted on so large a scale for our landscapes. The Scarlet Tanager undergoes its change in August, and early in the month may be found with its red plumage variously invaded by the conquering yellowish and green. I have found the male in externally perfect fall dress by mid-September; but feather growth continues into October, when the bird becomes excessively fat.

Pinicola enucleator. PINE GROSBEAK.

Loxia curvirostra americana. RED CROSSBILL.

In the spring of 1875 — a late spring, following a severe winter — both of these hardy birds so far relented from their usual reticence while away from their northern homes as to allow us to hear them sing. Of this, I have already written as follows: "…. as the winter waned the birds became none the less common, and in the mild mornings of early spring-time this species [the Crossbill], as well as *Pinicola enucleator*, would often be found in full song, frequently on the same tree. As I now recall them, the song of the Grosbeak was a subdued rambling warble interrupted with whistling notes; that of the Crossbill bolder and more pronounced as a song."* It the context, wherein is described a nest and three eggs of the Crossbill, taken at Riverdale, on April 30, 1875, the species is alluded to as having remained up to that time in full song.

Since that season I have met with flocks of Crossbills here in April, May, June, and July, but except an occasional low twittering in May, 1884, their usual nervous chatter was their only utterance.

As for the Pine Grosbeaks, they too remained late the present year — through March — and showed some disposition to sing. Low warbling notes were heard from them in February, at Sing-Sing, by Dr. A. K. Fisher, and also at Riverdale.

Carpodacus purpureus. PURPLE FINCH.

There is much irregularity in the occurrence with us of the Purple Finch, particularly in the winter season. In some winters it is constantly present in numbers; in others it is absent. From this arises an irregularity in the time of the beginning of spring song. When the bird has been common through the winter its song is to be heard usually much earlier in the spring than when it is brought by migrants. The time of arrival of the spring migrants is also variable, and their songs are first heard sometime between the fourth week of March and the corresponding week of April. The latest date that I have record of for the beginning of spring song is April 23.

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* Bull. N. O. C., Vol. V, No. 1, p. 8. January, 1880.

Purple Finches were present through the winter of 1877-78, and the exceptionally early spring which followed enticed them into song as early as the 3d of March. This is my earliest record for the actual beginning of song. Impatient birds sometimes try their pipes on bright days of mid-winter, but, so far as I have observed, always with poor results. When once regularly begun, singing continues until about the middle of July — 2d to 20th.

In the autumn the song is weak and desultory, although I have occasionally at that season heard a near approach to the full song of spring. Singing is also somewhat uncertain in the fall, and though in some seasons quite general with the species, in others it is not heard at all. Dates for song are down in my books from September 22 to October 31.

I have elsewhere (Trans. Linnæan Society of New York, Vol. I, pp. 43-44) referred to the song of the Purple Finch in the Catskill Mountains in connection with its song in the Hudson Valley, and alluded to variations to which it is subject.

Chrysomitris pinus. PINE LINNET.

In his record of the nesting at Sing-Sing, N. Y., in 1883, of the Pine Linnet (Bull. N. O. C., Vol. VIII, No. 3, p. 180, July, 1883), Dr. A. K. Fisher has told us that the bird was in full song after May 8. The species undoubtedly nested at Riverdale the same season, although no nest was discovered, and in early May it was often heard in song. This year they are again with us, and singing at the end of March. Their best efforts issue in a confusion of somewhat hard and hurried notes, tending to degenerate into a chatter.

Mr. Jonathan Dwight, Jr., has favored me with some interesting personal observations on this species, showing that in the spring of 1883, when it bred in the Hudson Valley, it was also common on parts of Long Island. At Rockaway, and at Cypress Hills Cemetery, Mr. Dwight saw them and heard them singing at different times between March 15 and May 2. He speaks of their song as a "soliloquizing gabble, interspersed with a prolonged wheeze — a prolongation of their usual note while flying." This hoarse note sometimes sounds much like a common note of the English House Sparrow. Before it was familiar to me it was with no little surprise that I heard at Big Moose Lake, deep in the Adirondack Wilderness, a bird-note so suggestive of city streets.

Astragalinus tristis. AMERICAN GOLDFINCH.

A wide variation in the time of the beginning of song with this species in different years is doubtless attributable to the same causes that produce like results in the case of the Purple Finch. My records show that at any time between March 16 and April 17 it is not unusual for singing to begin. March 3 (in the precocious season of 1878*) is an exceptionally early date; April 23, 1883, an exceptionally late one. In the spring and early summer singing is likely to be inconstant; doubtless for the reason that the birds are not disposed to stay long at any locality when not under the restraint of domestic duties, and while wandering about in flocks they seem disinclined to sing.

Final songs are sung at the last of August (20th and 26th to 30th); though I have no record for 1881 later than August 8, notwithstanding that the birds were present through the month; possibly observation was at fault.

After the close of summer their song is not again heard until the following spring. Singing begins in the spring before the perfect summer plumage is assumed; but for that matter many of the birds are to be seen even so late as mid-May with a dusky tarnish still marring their golden coats. The Goldfinch often sings while on the wing.

Passerculus sandvicensis savana. SAVANNA SPARROW.

This Sparrow is one of the few spring migrants which are not in song on their arrival, and is also the only one of our song-birds which I find in full moult while migrating in the spring. Even so late as the fourth week of April individuals are to be found covered with sprouting and growing feathers; but at the same time, and before, others have acquired their full spring attire.

The dates that I have recorded limiting its presence in the spring are March 23 and May 19; while I have heard its song between April 9 and May 2. Beyond the latter date it is never common, and in some seasons there are but few birds remaining at the end of April. Singing does not usually begin until from two to three weeks after the pioneer migrants have made their appearance.

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*See a paper by the writer in 'The Country' for March 31, 1878, 'On the Animal and Vegetable Life of the Past Winter.'

This Sparrow I have never heard sing in the autumn.

Pooecetes gramineus. GRASS FINCH.

Where this Sparrow breeds numerously it perhaps sings on later into the summer than in the locality of my observations, where it is not a common summer bird. In some years I have not heard it long after the entry of July, but usually it sings till late in the month, and I am not without dates of its singing in early August.

In the autumn the species as a whole is without song, but individuals sometimes infringe the general rule of silence. At Saratoga, on September 30, 1883, a bird rose into the air from a sandy field, ascending with an excited chippering which passed into the musical notes of a varied and extended song; this instantly suggested the song of the Vesper Sparrow, differing, however, in being less definite in theme and more prolonged, but just as the songs of many birds while on the wing differ from their usual strains. Where the bird alighted a flock of Vesper Sparrows scattered up on my approach, and there can be no doubt that it was to one of their number that I had listened. I had not before observed the song-flight in this species. Another record of this Sparrow's singing in the autumn has been mislaid.

Coturniculus passerinus. YELLOW-WINGED SPARROW.

This little field bird continues in song up to the middle of July or later, sometimes even into the early days of August. It seems most persistent in song in hot, dry summers, when, on the most fervid days, its fine notes sound sibilant and insect-like about the parched fields.

Zonotrichia leucophrys. WHITE-CROWNED SPARROW.

I have never to my knowledge heard the song of this fine Sparrow; nor, indeed, have I ever found it a common bird in the spring. Nevertheless it is sometimes not uncommon at that season, and may sing with some constancy. At Sing-Sing, twenty miles north of Riverdale, in May, 1882, Dr. Fisher found it in some numbers, and heard its full song between May 9 and 26. Dr. Fisher alludes to the song as suggestive of that of the Meadow Lark.

Zonotrichia albicollis. WHITE-THROATED SPARROW.

This Sparrow is here a winter resident, appearing from further north in the latter part of September, and remaining into May. I have heard its song every month during its stay; but in winter, except at the borders of the season, singing is exceptional and always of imperfect expression. Song at this season seems merely to result from individual caprice.

Perhaps none of our birds shows greater irregularity from year to year in the time of general entry into spring singing than the White-throated Sparrow. While early April seems to be the usual time for singing to begin, it is not unusual for it to commence at any time in March, and in an abnormally mild season may begin before the end of February. On the other hand, it is sometimes deferred until the middle of April. Dates of final spring songs run through May to the 20th, and usually, though not always, occur a week or more before the species has disappeared. This discrepancy between the time of final song and departure, which is also noticeable with other species, is doubtless to be attributed to the fact of the songless females outstaying the males.

When the White-throated Sparrows reappear among us, in September, they are songless, and a week or two may elapse before they give voice. Dates of first autumn songs, of several seasons, range from October 3d to 7th.

The White-throated Sparrow has two especially characteristic single notes; a low *cheep*, and a resonant, metallic *chink*. This last sounds not unlike the clink of a metal hammer and drill, and when it is uttered by several birds in regular turn the effect in sound is strongly suggestive of that of quarriers at work near by. This note chiefly belongs to the late afternoon and early evening, and seems to be in general use only when a party of the birds are settling for the night about some chosen shelter. About my residence are large closely-grouped Norway spruces. At sundown, in late autumn, winter, and early spring, many White-throated Sparrows congregate nightly for shelter in the dark recesses of these shaggy evergreens. Ere they have settled for the night their clear resonant notes fall upon the ear in confused rehearsal, but they are subdued to gradual decadence with the deepening shadows, until only now and then a single note breaks the stillness; then there is silence and night has fallen.

THE DISTRIBUTION AND MIGRATION OF *ZONOTRICHIA QUERULA*.

BY W. W. COOKE.

WHILE living in Northern Minnesota I shot a bird, late in the fall, which was with difficulty identified. The 'Key' carried it straight to *Zonotrichia*, but it had no white crown, no white throat, and no black head; hence, how could it belong there? At last it was discovered that, like the play of Hamlet with the part of Hamlet left out, this was a Black-headed Sparrow minus the black head. The acquaintance then formed has ripened into a lasting friendship, and from that time the jaunty bird has been an especial favorite. It came to me under several circumstances tending to excite interest. It was the first true western bird I had ever seen, nor could I learn from any books at hand whence it came or whither it went; no one had ever seen its nest and eggs, and even its winter home was but imperfectly known. For three years its coming and going in the North were noted, and then after quite a long separation it was again greeted last fall in its winter home near the southern boundary of Indian Territory. As might be expected, its movements during the winter were watched quite carefully, and it is the intention of the present article to add to these observations all that is now known of its distribution and migration.

Our subject was first described by Nuttall from Westport, Mo., in 1840, and for the next thirty years not much was added to our knowledge of it. Up to 1873 most of the notices respecting it were from the Missouri River, along which it had been traced for arly a thousand miles; the other notes are a few scattered ones om Iowa and Dr. Coues's observations in the Mouse River reion of Northern Dakota. So persistently had it been noted from he Missouri River, that Dr. Coues, in 'Birds of the Northwest,' gave its habitat as "Region of the Missouri. East to Eastern Iowa." Since then it has been noted from widely separated districts, but its whole bibliography is limited.

Let us first trace out its habitat. Toward the west I am unable to give its extension with any degree of precision. Mr. Goss, in his late catalogue of the birds of Kansas, gives it as a winter resident in Kansas, and as common in Southern Kansas. Dr. Waston, of Ellis in Western Kansas, writes me that they occur there in fall and spring, and are sometimes abundant. It is probable, that, like the other birds of the Plains, they extend either regularly or occasionally to the foothills of the Rocky Mountains.

To the eastward our knowledge is more definite. There is no Louisiana nor Arkansas record that I have seen, but in Western Missouri they are common, and pass eastward to about the middle of the state; the most eastward record I possess being that of Mrs. Musick, at Mount Carmel, Mo., who found both the first and the bulk April 3, 1884. In Iowa it ranges a little farther east, being common in the western and middle parts, and a straggler to the eastern part, one being sent me for identification from Mitchell, Iowa, near the Wisconsin line. It has even wandered twice to Illinois, having been taken at Bloomington and at Normal. The whole of Minnesota has been preëmpted by our subject, as I have records from the four corners of the state; and last fall it made bold to cross into Wisconsin, only to yield its life in the interest of science at Trempeleau. We also have a former Wisconsin record by Dr. Hoy from Racine.

If we seek its southern boundary we must journey afar. Without record from intervening territory, Mr. Dresser secured two specimens at San Antonio, Texas, and later Mr. N. C. Brown tells us in the 'Bulletin' that it was an abundant winter resident at Boerne, Texas, thirty miles from San Antonio. In his careful and extended review of the birds of Galveston and vicinity (Bulletin, 1882) Mr. Nehrling does not give it; hence we may conclude that if it does reach Southeastern Texas, it must be as a straggler.

Mr. G. H. Ragsdale writes me that it is an abundant winter bird at Gainesville, in Northeastern Texas, and he has left a record

(Bulletin, III, July 1878, p. 92) that during the winter of 1876-77 it disappeared, being driven south by the cold weather. From the printed records, then, we may say that its southeastern limit is somewhere near the middle of Eastern Texas.

The northern limit is entirely indeterminate. It reaches into British America, but how far we know not.

It will be thus seen that its habitat may be characterized as: Plains of the United States, from Southwestern Texas to British America. East rarely to the Mississippi River. Accidental in Wisconsin and Illinois.

We turn now to its migration. Dr. Coues speaks of its appearing in Northern Dakota late in September. At White Earth, Minnesota, I used to note its arrival about the middle of that month, and it loitered as long as possible, leaving just before the first snow fell. During its sojourn it was the commonest and most conspicuous species. Last fall the first one reached Manhattan, Kansas, on October 27, and the species became immediately abundant, remaining so until the latter part of December. Like many other birds, the very severe weather of the last of December and the first of January sent it farther south than usual. At Pierce City, Mo., it was abundant in the fall, but after the 2d of January none were seen. At Darlington, Ind. Ter., it was present all winter, and the same was true at Caddo, Ind. Ter., and at Gainesville, Tex.

For an account of its behavior last winter at Caddo, Ind. Ter., thirty miles north of Denison, Texas, I think I cannot do better than quote from my diary:

Nov. 8. In the evening two birds alighted on the fence in my back yard; one having the black head- and throat-patch, the other with no really black feathers. They were the first of the season.

Nov. 24. A small party seen.

Dec. 25. Common. The arrivals from the north seem to be about all in. It is an abundant winter resident of Caddo. I found them to-day even slightly outnumbering *Cardinalis*. They were in small parties, quite evenly scattered along the water-courses. As I passed they would keep flying ahead of me until several parties had united, making a flock of forty to fifty birds. *Cardinalis* acted in the same way. Contrary to my expectations, I found some of the males in full dress — with the black head and jet black throat. Possibly one out of a dozen was thus attired, while probably half of them showed black feathers among the brownish ones of the throat and breast. The rest had no sign of a black throat-patch, and but little black on the head. Entering suddenly an open spot in the woods I surprised a family party of six or eight, sitting quietly on the bare ground. This was the first time I ever knew them to rest so when bushes were near. They scurried off into the thick brush as if ashamed at being caught in such a humble position.

Jan. 8. Determined as a song of the Harris's Sparrow, a note which I had formerly supposed was uttered by the Cardinal, in whose company it is usually found. This Sparrow now has two notes, one a clear whistle, something like that of *Z. albicollis;* the other a queer, chuckling note, unlike any other song with which I am familiar. By throwing some bird-seed on the south porch of my house we had a whole colony of Sparrows in plain sight under the window. A party of some twenty Harris's Sparrows almost monopolized the free lunch; but one bright Cardinal came occasionally to take a peck, and among the jaunty, stylish *querula* could be seen one or two White-crowns in plain brown head gear, and the still more humble Tree Sparrow, which, however, made up for its lack of beauty by additional industry, devouring more seeds to the minute than any of the others.

Jan. 12. The *Zonotrichiæ* seem to be rather queerly dispersed in this country. *Leucophrys* is the least common, and is found almost entirely in the weed patches about town and on the edges of the prairies. *Querula* comes next in numbers, and most of them remain in the thickets along the water-courses; a few stray into town, especially in the coldest weather and still fewer into the heavy timber. *Albicollis*, most numerous of all, keeps strictly to the bottom-land, and even there I found them to-day only in those parts of the timber where there was a heavy undergrowth for shelter. About a hundred *albicollis* were seen to-day in some four or five parties. These parties always contained several other species of Fringillidæ, but their combined numbers were hardly more than the Peabodys. They consisted of Tree Sparrows, Black Snowbirds, Song Sparrows, and Field Sparrows. Not a *leucophrys* nor *querula* was identified after I reached the heavy timber.

Feb. 15. A party seen—the first for some time; they were all dull-colored — not a black head among them.

Feb. 18. A few are around, but whether the rest have gone south or north I do not know. Not many black heads seen yet, though many show black feathers on the crown.

Feb. 23. A few seen in the timber, but more common on the borders of the woods.

Feb. 26. The scarcity of *querula* during the early part of this month was probably due to their moving southward; they are now back again and are spread all over the small thickets.

March 5. Is spreading; saw a large party feeding on the ground in a barn-yard on the prairie.

March 10. Last night was perfect for migration — moderate south wind, perfectly clear, and moonlight. This morning shows a decided decrease in *J. hyemalis*, *S. montana*, and *Z. querula*. Indeed, I think the bulk of these species departed last night.

March 11. Almost the whole have gone, only a few seen.

March 13. Large arrivals from the south.

March 15. About the most numerous of any time this spring.

March 19. Still seen in small parties.

March 25. A single bird, the last seen.

Passing now to study its movements at other points, we find that in 1877, Mr. Brown speaks of the last one leaving Boerne, about the first of April. This year the northward movement commenced about the first of March, and the bulk left Gainesville, Tex., on March 12; three days later the transients were at their height at Caddo; those which spent the winter at Caddo left March 10. The bulk arrived at Pierce City, Mo., March 17, and the next day at Manhattan, Kans. At Alda, Neb., they were seen March 23, and then comes more than a month during which there was no advance. They appeared at Vermillion, Dak., on May 3, and just two weeks later, at Augusville, Dak. They had previously occurred May 10, at Frazer City, Minn. The bulk is seldom more than four or five days behind the van. Some very late migrants were noted this spring; one was seen at Gainesville, Tex., May 5, and another at Mahattan, Kans., May 20.

The area of greatest abundance is the country for seventy-five to one hundred miles on each side of a due north and south line connecting Pembina, Dak., with San Antonio, Tex. Its normal winter home is from Central Kansas southward, but it is not uncommon for a few to brave part or the whole of the winter in the extreme northern part of the State. Its summer home is yet shrouded in obscurity, but it is likely that the persistent efforts of collectors will soon put us in possession of the material for completing its life history. As has already been remarked, its nest and eggs remain unknown, but several notes are in hand bearing on its summer abode.

Professor Aughey in his 'Notes on the Nature of the Food of the Birds of Nebraska,' p. 29, says: "Common in Eastern Nebraska along the Missouri. Have not noticed it in winter, but have frequently seen the young in the northern part of the State." If by this he means that these young were reared in the state, he is undoubtedly in error. As negative testimony against it, the excellent and reliable observer, Mr. G. S. Agersborg of Vermillion, Dak., writes me, that during seventeen years he has scoured the country for fifty miles around and has never seen a specimen in summer, though common in spring and fall. Dr. Coues is unequivocal in his statement that none spend the summer south of lat. 49°. This is probably correct for the Mouse River region in Dakota, about which he was writing, but may require some modification when applied to Minnesota. It will not be surprising if its summer home shall yet be found in Northern Minnesota, in the Lake of the Woods region, since Dr. Hatch, the authority on the birds of that State, writes me as follows: "*Z. querula* is not so often met with here in spring as in fall migration, and then mostly in the Big Woods; sometimes along the belts of timber of the prairie sections. I have not personally seen it at any point beyond these woods, but I am satisfied that it is a summer resident in the northeastern portions of the State." Upon asking the grounds of this belief, he answered: "*Z. querula* has come under my notice under circumstances which led me to believe that their nests were made within the boundaries of the State, perhaps not far removed from those of *albicollis*, but I have never seen a nest, nor do I personally know any one who has. The lateness of the date at which they have sometimes come here, together with the advanced state of ovulation, is the principal basis of my conjecture, as well as their association with birds, such as *albicollis*, known to breed about two hundred miles north of Minneapolis."

ZOÖLOGICAL NOMENCLATURE.

BY J. A. ALLEN.

THE subject of trimonial nomenclature seems just now to be attracting much attention, not only in this country but abroad, especially in England, where a special meeting was recently held to consider the matter. The meeting was held July 2, in the lecture room of the Zoölogical Department of the British Museum, pursuant to the subjoined call,* which sufficiently explains the occasion of the meeting. From the report of the proceedings in 'The Field' of July 6, and in 'Nature' of July 10 and 17, we learn that among those present were Lord Walsingham, Professor Flower, F. R. S., Dr. Günther, F. R. S., Dr. P. L. Sclater, F. R. S., Dr. H. B. Woodward, F. R. S., Professor Traquair, F. R. S., W. T. Blanford, F. R. S., Henry Seebohm, F. L. S., Howard Saunders, F. L. S., Professor J. Jeffrey Bell, J. E. Harting, F. L. S., G. A. Boulenger, H. T. Wharton, F. L. S., S. O. Ridley, F. L. S., W. F. Kirby, Sect. Ent. Soc., Herbert Druce, F. L. S., W. R. Ogilvie Grant, and R. Bowdler Sharpe, F. L. S. The chair was taken by Professor Flower, who, in opening the proceedings, read a letter from Professor Huxley, P. R. S., expressing his regret at not being able to be present, in consequence of pressing official business. From the full report of the meeting given in 'Nature' we condense the following abstract of proceedings: —

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* "ZOÖLOGICAL NOMENCLATURE.

NATURAL HISTORY MUSEUM,
June 24th, 1884.

"SIR: Taking advantage of the presence in this country of the distinguished American Zoölogist Dr. Elliott Coues (who represents the advanced opinions of American Naturalists), it is proposed to hold a meeting of British Zoölogists to consider the expediency of adopting certain changes, more especially in the direction of trinomial nomenclature.

"For the purpose of obtaining a discussion of the question a meeting will be held in the Lecture Room of the Natural History Museum on Tuesday, July 1st [2d], at 3 P.M. (Professor Flower, F. R. S., in the chair), when Mr. R. Bowdler Sharpe will read a paper (with illustrations) "On the expediency, or otherwise, of adopting Trinomial Nomenclature in Zoölogy."

"As the question is one of great importance to Zoölogists your attendance at this meeting is *earnestly requested.* Dr. Coues will be present.

I am, sir,
Your obedient servant,
R. BOWDLER SHARPE."

The Chairman, Professor Flower, in his opening remarks, alluded to the extreme importance and difficulties of the subject, for while the name of any natural object is one of its most trivial and artificial attributes, laxity in the use of names causes endless perplexities and hindrances to the progress of knowledge. He often found little difficulty in making out the characters and structure of an animal, but when called upon to decide by what name to call it he often found himself in a sea of perplexity. He hoped the present discussion would help to clear up our ideas on the subject. Abstaining, with the impartiality due from the chair, he would withhold his opinion upon the merits of the rival schemes to be proposed until after hearing the arguments, and called upon Mr. R. Bowdler Sharpe to read a paper 'On the expediency, or otherwise, of adopting Trinomial Nomenclature.'

Mr. Sharpe said he approached the discussion of the subject without the least prejudice either for or against the adoption of trinomial nomenclature. He alluded to the fact that for some time the system had been recognized and followed by zoölogists on the other side of the Atlantic, and stated that to a certain extent the principle had been admitted by more than one worker in the Old World. The presence in this country, he said, of one of the most able advocates of the system, Dr. Elliott Coues, has recently stimulated the thoughts of many of us as to the wisdom of its adoption for the zoölogy of the Old World, and it had occurred to him that a friendly meeting to discuss the matter with Dr. Coues and some of the leading British zoölogists could certainly do no harm, and might be productive of a considerable amount of good. It seemed to him that there are certain facts in nature which we all recognize, but about the expression of which many of us entertain different views. He proposed merely to bring forward certain difficult aspects of the question as they presented themselves to him, and would be glad to have an expression of opinion upon the facts to which he should call attention. In illustration of the difficulties he laid upon the table a series of specimens illustrating what he considered to be one of the most interesting examples of what he conceived to be a series of subspecies, or representative races, of one dominant form.

The birds in question were the *Astur badius* group of Goshawks. ‘In Southern Africa is a small form called *Astur polyzonoides*, which inhabits the whole of the South African subregion, but does not, so far as my knowledge goes, extend beyond the Zambesi. In Senegambia and Northeast Africa it is replaced by a race called *Astur sphenurus*, in which the color of the under surface is much more delicate than in *Astur polyzonoides*. From Central Russia, throughout Turkey, Asia Minor, Persia, and Syria, a large race called *Astur brevipes* replaces the two foregoing subspecies, and forms a third. From Baluchistan, throughout India, and Ceylon, a somewhat smaller form, *Astur badius*, takes up the running, and throughout the Burmese countries, extending to Formosa and Hainan, we have yet another race, *Astur poliopsis*, which is a purer and more elegant edition of *Astur badius*. This little group of Goshawks has been well worked out, and we may fairly presume that we have the facts before us. Now I should like to know if this is a case where we might adopt the trinomial system, and call these birds

Astur badius,
Astur badius poliopsis,
Astur badius brevipes,
Astur badius sphenurus.
Astur badius polyzonoides.

"At present, were I writing about the South African bird or the Abyssinian bird, I should never speak of them as *Astur badius*, which is the name belonging to the Indian bird exclusively, and I am not quite sure that we gain in this case anything whatever by adopting trinomial nomenclature. The same parallel may be drawn with some of the species of *Scops* among the Owls, as may be seen by the series now exhibited, and here trinomial nomenclature might perhaps be employed. Thus the representative races of *Scops giu* would be *S. giu capensis* in Africa, *S. giu pennatus* from the Himalayas, *S. giu minutus* from Ceylon, *S. giu stictonotus* from China, *S. giu japonicus* from Japan, *S. giu malayanus* from Malacca, *S. giu rufipennis* from Madras, and *S. giu brucii* from North-Western India."

In further illustration he adduced a group of Asiatic Crows, where he believed trinomial nomenclature could be employed to advantage. A case of a different kind was presented by several species of *Chibia* from the Malay Archipelago, where the

Drongos from different islands or groups of islands were representative insular forms. The use here of trinomial designations he believed conveyed an exact impression of the value of these forms, which are so closely allied as to be almost indistinguishable. A more difficult case is that of the Yellow Wagtails, in treating which Drs. Finsch and Hartlaub, and also Baron von Heuglin have employed, as he believed prematurely, trinomial nomenclature. Mr. Sharpe considered that the intermediate forms which undoubtedly exist are due to another and totally different cause, viz., to bybridization, although the case is not proved.

Mr. Sharpe, in continuing, said: "There is one advantage which we must all admit that the American zoölogists possess over ourselves, and that is, that they have a clear idea of the natural geographical divisions of their continent, and their zoölogy has been studied from many distinct points of view, such as the presence or absence of rainfall, etc., and it only requires a glance at Mr. Hume's essay on the distribution of Indian birds with respect to the distribution of rainfall throughout the Indian peninsula to see how very important is this aspect of the subject. Even in the British Islands there are variations in the size and coloration of some of our resident birds, as any one may learn from Mr. F. Bond, who has devoted sixty years of his life to the study of British ornithology, and who now has one of the most interesting collections in this country But when we come to study the birds of Europe and the Palæarctic region generally, how small is our real knowledge, and what vast areas are there concerning the ornithology of which we know next to nothing! Great praise is, therefore, due to men like Dr. Menzbier, who has just written the first part of an elaborate treatise on the geographical distribution of birds in Russia; but it will be a long time before we can have in any museum such a series of birds as is possessed by the Smithsonian Institution for any one wishing to study the geographical distribution of the birds of North America." He added that the British Museum was fully alive to the importance of the question, but he found that nothing was more difficult than to procure from his colleagues in other countries of Europe representative sets of the common resident birds of their respective countries.

In regard to the Goshawks, the Scops Owls, and the Crows, he was not yet certain whether treating them as subspecies, as he had done in his 'Catalogue,' was not as advantageous as the employment of trinomial nomenclature. In regard to the Long-tailed Titmice (*Acredula caudata* group), where several forms are connected by intermediate gradations, he believed the adoption of the trinomial system would be a positive advantage.

In concluding he stated that the great difficulty he perceived in the way of the adoption of trinomial nomenclature was encountered in the fact that it would open the door to a multiplication of species, or races, founded on insufficient material by authors lacking in experience of the difficulties of the subject; "but," he added, "I cannot conceal from myself that the code of nomenclature proposed by the British Association and followed by most of us, scarcely accounts for the treatment of facts as they have been developed in zoölogical science since the promulgation of that code, and that before long it will be the duty of British zoölogists to attempt its modification."

Mr. Seebohm followed with a paper in continuation of the subject, in which he showed an exceptionally clear conception of the conditions of the problem to be met, and proposed a "modification of the American system of nomenclature." He said: "The question of a binomial or trinomial nomenclature is not a very simple one. So long as ornithologists were under the delusion that all species were separated from each other by a hard and fast line, the binomial system of nomenclature was sufficient. Now that we know that many forms which have been regarded as species are connected by intermediate links with each other, and that many species present important local variations which cannot be ignored, we are obliged to admit the existence of subspecies as well as species. There can be no doubt that the too tardy recognition by European ornithologists of what might not unreasonably be regarded as the most important fact in ornithology discovered during the present century has been very largely due to a pedantic adherence to a binomial system of nomenclature. Now that we have emancipated ourselves from the fetters with which our predecessors, with the best intentions in the world, cramped our ideas, the question arises, how shall we recognize in our nomenclature the existence of sub-specific forms; by a word, or by a sentence? The ornithologists of America think that a system of trinomial nomenclature will answer the purpose. They have come to the conclusion that the insertion of a third link in the chain which binds us will give our ideas scope enough. Their theory is that the judicious ornithologist will be able to select from the infinite number of steps which form the series of intermediate races which lie between two intergrading species, one, two, three, or even in some cases more local or climatic races which are worthy of being dignified by a name. This theory is on the face of it somewhat illogical. It credits ornithologists with an amount of discretion which their past history does not justify, and totally ignores the inordinate desire to introduce new names which is unfortunately too conspicuous in most if not all ornithological writers, culminating in the absurdities of a Brehm. That ornithology should be preserved from being Brehmised must be the devout prayer of every well-wisher of the science. On the other hand, the recognition of subspecies by a sentence would be to revert to the customs of the præ-Linnæan dark ages of nomenclature, a retrograde step from which all zoölogists would instinctively shrink. Members of the British Ornithologists' Union are probably all prepared to admit that a medium course is safest at least for an Ibis (*medio tutissimus ibis*), and, with a very slight modification I, for one, am prepared to adopt the American system in spite of its dangers. If no paths are to be trodden in which the indiscreet may err, there is an end at once to all progress.

"To point out the modifications which I propose to introduce into the American system of nomenclature to change it from an empirical system to a logical or scientific system, I will take as an example the Common Nuthatch (*Sitta europæa*), and show how the nomenclature of its various races may be made exhaustive, so that the temptation to introduce new names, which appears to be irresistible to the indiscreet ornithologist, may be minimised.

"*Sitta uralensis*, with white under parts, is found in Siberia; *Sitta cæsia*, with chestnut under parts, is found in England; intermediate forms connecting these species together are found in the Baltic provinces. What can be more simple than to call the intermediate forms by both names, *Sitta cæsia-uralensis?* But there is a third species which turns up in China, *Sitta sinensis*, and which is also connected with *Sitta uralensis* by intermediate forms. Never mind; they too can be called by both names, and our series of Nuthatches runs geographically in an unbroken series:—

Sitta cæsia,
Sitta cæsia-uralensis,
Sitta uralensis,
Sitta uralensis-sinensis,
Sitta sinensis.

"So far so good; but, unfortunately, two more complications arise. Besides the series running southwest into *S. cæsia*, and that running southeast into *S. sinensis*, two other series run from the central form *S. uralensis*, one running due west and then round by the Baltic into the Scandinavian *S. europæa* (a larger bird, and somewhat darker on the under parts), and a second running due east and then round the Sea of Okotsk into the Kamchatkan *S. albifrons* (a bird much paler on the head, which shades into white on the forehead), so that it is necessary to add four more names to the list, which will stand as under:—

"*Sitta cæsia* is found in Britain, South-West and South Europe, and Asia Minor. It is medium in size, but extreme in the darkness of the chestnut of the under parts.

"*Sitta cæsia-uralensis* (with a hyphen between the two specific names) represents all the forms intermediate between South European and Siberian examples, which occur in Denmark, Pomerania, the Baltic provinces of Russia, Poland, and the Crimea.

"*Sitta europæa* is the Scandinavian form, and represents the extreme of size, whilst in color it is intermediate between the forms found in the Baltic provinces of Russia and Central Siberia.

"*Sitta europæa-uralensis* comprises all the intermediate forms in Russia which connect the Scandinavian with the Central Siberian forms.

"*Sitta uralensis* is found in the valleys of the Ob, the Yenesei, and Lena, and combines the small size characteristic of the various Asiatic subspecies of Nuthatch with the dark upper parts of the sub-tropical forms, whilst the under parts are nearly as white as in the Kamchatkan form.

"*Sitta uralensis-albifrons* may be applied to all those intermediate forms found in East Siberia and the north islands of Japan which are not quite so pale on the upper parts as the Kamchatkan form.

"*Sitta albifrons* is found in Kamchatka, and represents the extreme form so far as whiteness of the forehead and under parts is concerned.

"*Sitta uralensis-sinensis* may be applied to the series of forms found in the valley of the Amoor, the island of Askold, and the main island of Japan. They are intermediate in color between the Central Siberian and Chinese forms, and are scarcely to be distinguished from the Baltic province forms.

"*Sitta sinensis* is found in China, and only differs from the British form in being slightly smaller and in not having quite so much dark chestnut on the flanks.

"I have purposely chosen a complicated case in order to show the capabilities of the system, which, if the specific name of *europæa* is always repeated after the generic name of *Sitta*, becomes a compromise between that adopted by the Americans and that which I imperfectly carried out in the fifth volume of the 'Catalogue of Birds in the British Museum,' and which was originally suggested to me by a conversation with Mr. Salvin. It has at least the merit of being exhaustive, and differs so slightly from that in common use in America that its adoption does not involve a change in, but only an addition to, the system which in some form or other is destined to supercede the binominal system now rendered inadequate by the acceptance of the theory of evolution.

"As an example of the compromise I propose, I add a list of the local races of the Dipper, with their geographical ranges:—

"*Cinclus aquaticus melanogaster* (Scandinavia).

"*Cinclus aquaticus melanogaster-albicollis* sive *Cinclus aquaticus* (West-Europe, as far north as the Carpathian and as far south as the Pyranees).

"*Cinclus aquaticus albicollis* (South Spain, Algiers, Italy, Greece).

"*Cinclus aquaticus albicollis-cashmiriensis* (Asia Minor, Caucasus, Persia).

"*Cinclus aquaticus leucogaster* (East Siberia).

"*Cinclus aquaticus leucogaster-cashmiriensis* (Central Siberia).

"*Cinclus aquaticus cashmiriensis* (Cashmere, South Siberia, and Mongolia).

"*Cinclus aquaticus cashmiriensis-sordidus* (Altai Mountains).

"*Cinclus aquaticus sordidus* (Thibet).

"In this system it must be observed that wherever there is a fourth name it is always connected by a hyphen to the third name, and comprises all the intermediate forms between the two. It is somewhat cumbrous, but it provides for the contingency of any intermediate links that may occur. To express it algebraically, it provides not only for AB and BC, but also for AC. It is perhaps the only system which is theoretically perfect, but the question whether its voluminousness renders it impracticable or undesirable is one requiring careful consideration."

Dr. Coues, following Mr. Seebohm, said that he was much gratified at the interest shown in the subject of zoölogical nomenclature, and indorsed the words of the Chairman that names were of the greatest possible consequence. Nomenclature was a necessary evil, and the point was always to employ that method of naming objects which should most clearly reflect not only the characters of the objects themselves, but our ideas respecting them. He referred to the revolution in opinion that has taken place since the time of Linnæus in respect to what constitutes a species; a revolution brought about by the acceptance of the theory of evolution. It was now idle to ask "What is a species?" no such thing existing any more than a genus. So intimately related are all forms of animal and vegetable life, if they were all before us (including the extinct as well as the living), no naming would be possible, for each would be found to be connected completely with another; therefore the possibility of naming any species was, as it were, the gauge and test of our ignorance. Having thus touched very briefly upon the subject of missing links, which alone enable us to name objects which still exist, Dr. Coues proceeded to inquire, "What of so-called species the connecting links between which are still before our eyes?" He then briefly stated his views on the points at issue, citing in illustration of the subject our well-known case of the Hairy Woodpecker (*Picus villosus*). Dr. Coues's views are too well known, however, on this side of the Atlantic to render it necessary to give his remarks at length.

Dr. Günther said that he looked with favor on the method proposed by Dr. Coues and his compatriots, and stated that it was a system he had himself employed occasionally in his systematic writings since 1866, and Dr. Coues would find that in some cases he had adopted it pure and simple. If Dr. Coues and those who were with him would follow the system of adopting trinomial nomenclature for all forms he for one would gladly employ it in all those cases in which the geographical range of certain forms is clearly ascertained.

Dr. Sclater would remind Dr. Coues that this mode of designating the forms of life was by no means new, as might be seen by reference to Schlegel's 'Revue Critique,' published in 1844. His own chief objection to the system of trinomial nomenclature was its liability to abuse. The time had now come when it would be advisable to a certain extent to use trinomials. It is only in cases where faunæ have been fully worked out that trinomial names should come into use, and for such forms he was quite prepared to adopt the system.

Mr. Blanford advanced some objections to the proposed system. It involved more terms, any one of which was liable to be changed to suit personal views, and therefore rendered fixity in nomenclature more remote than before. He thought it also less suited to some other classes of animals than to birds, and alluded to the fact that the system was almost universally rejected by a recent meeting of geologists.* He did not consider that the time had come for any innovation.

Professor Bell agreed with Mr. Blanford that the method would not be universally applicable.

Mr. W. F. Kirby said that it was necessary to distinguish subspecies and varieties at times; but he feared that the system of naming varieties was open to great abuse, especially in entomology, where the number of species is so great. He urged, very properly, that whenever a named form previously regarded as a variety was raised to specific rank, the varietal name, wherever practicable, should be retained for the species, instead of a new one being imposed as is sometimes done.

Lord Walsingham cited a number of cases of geographical variation among insects and inquired how the system would apply in the particular cases instanced.

Dr. Sharp, a well-known entomologist, thought a system of names for forms lower than species would lead to complete chaos, as no line could be drawn until we gave a separate name for each individual which passed through the hands of zoölogists.

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* It should be said, however, that there was no one present to properly explain its scope and aims, or who understood its purpose well enough to speak intelligently in its defence. A glance at the report of the discussion is sufficient to show that it failed partly through prejudice against innovation, but mainly through ignorance as to what the system really is.

Dr. Woodward, speaking from the point of conchology, could mention cases in which perhaps the system would be convenient. But the additional third term would impose additional labor upon the student, as was the case whenever a group was broken into genera, subgenera, species, and subspecies.

Mr. H. T. Wharton admitted the value of the trinomial system when well-marked intermediate forms had to be dealt with, but he would prefer to see no other names introduced unless they were absolutely necessary. He called attention to the fact that the method was not new, for trinomial names are to be found in botanical catalogues.

Mr. H. Saunders said that he would like to direct attention to a practical point in this question. "Most of those present were aware that there was an unpretending annual called the 'Zoölogical Record,' which consisted now of about 800 pages, and that if trinomialism were adopted, it would make the volume of two great a size."

Dr. Traquair felt convinced that were any such system to receive the authoritative sanction of naturalists, its proper limits would not be observed by the ordinary crowd of name-manufacturers. In fossil ichthyology he had been brought face to face with the question of the definition and naming of species. Here he conceived that the 'species' must include all those forms which can indubitably be shown to graduate into each other. For these the only practicable way seemed to be to have one generic and one specific name — a binomial system — and he would leave each author free to treat 'subspecies' and varieties as he pleased, but without permitting him to apply any authoritative name to such. If the present binomial system is abused by people who name 'species' which have no existence except in their imaginations, what might we not expect such writers to do if the adoption of a trinomial system afforded them further scope for their faculties!

Mr. J. E. Harting strongly opposed the system from the opportunity it afforded indiscreet specialists for naming mere individual variations as species, which was already so great an evil. He would agree to the recognition of climatic variations in any given species when they were found to be constant and well-marked, but he could not agree that the only way of recognising such variations was by adding a third name to the generic and specific names. He would prefer to regard such forms as allied species and retain a binomial nomenclature. Nomenclature was not science, and he did not see how science could be advanced by the most perfect system of nomenclature that could be devised (!). It is true we could not get on without nomenclature, but the simpler it is the better; and the less time we spend discussing it the more we should have to devote to real study.

Dr. Coues, replying to previous speakers, said that the system of trinomial nomenclature had nothing to do with individual variations of specimens from one locality. It was not a question of naming varieties or hybrids, but there was a definite principle to proceed upon, namely that of geographical and climatal variation. He was well aware that the use of three names to designate objects in zoölogy was no new thing; but he believed that the restricted application of trinomialism to the particular class of cases he had discussed was virtually novel, and that the system would prove to be one of great practical utility. He thought that the application of the principle was a question which, after this discussion, and after further private discussions, might well be left to the discretion of authors.

The Chairman concluded the meeting by saying: "I hope that Dr. Elliott Coues is satisfied with the manner with which his views have been received. Although there are some uncompromising binomialists present, many have pronounced themselves as what may be termed limited trinomialists, and some appear to go as far as Dr. Coues himself. Distinctly defined species undoubtedly exist in great numbers, owing to extinction of intermediate forms; for these the binomial system offers all that is needed in defining them. But on the other hand there are numbers of cases in the actual state of the earth, and far more are being constantly revealed by the discoveries of palæontology, and nowhere so rapidly as in Dr. Coues's own country, where the infinite gradations defy the discrimination either of a binomial or a trinomial system. Zoölogists engaged in the question of nomenclature are being gradually brought face to face with an enormous difficulty in consequence of the discovery of these intermediate forms, and some far more radical change than that now proposed will have to be considered. In conclusion I must express the thanks of the meeting to Dr. Coues for having brought his views and those of his countrymen, of whom he is such a worthy representative, before us, and also to Mr. Bowdler Sharpe, to whose zeal and energy the organization of the meeting is entirely due."

It appears from the report of the meeting that the chief objection, and almost the only one advanced by the ornithologists present, to the system of trinomial nomenclature, was its liability to abuse on the part of indiscreet writers. This objection we incline to think is overrated, and is applicable with greater or less force to any system. The other objections have really little weight, and were raised mainly by those who, as their remarks clearly show, had not a proper conception of the workings of the proposed system.

Mr. Seebohm's proposed compromise is certainly worthy of serious consideration, respecting which we beg to submit in this connection a few comments. In short, Mr. Seebohm would adopt trinomials pure and simple for subspecies, or for well-marked intergrading geographical forms, and to this extent is in full accord with the 'American school,' but would engraft thereon a means of designating the connecting links between such forms, through use of a polynomial designation. There is certainly a real gain in this, offset to some degree by the objection of cumbrousness. While still trinomial in principle and spirit, it practically adds a fourth term. The idea, as now fully unfolded by Mr. Seebohm, is not new to us on this side of the water, and though it has not been publicly brought forward, it has been to some extent considered privately and rejected—perhaps too hastily—as likely to add, as least seemingly, complexity and an undue burden to the system. Some years since, while engaged on a monograph of the American Squirrels, I employed a modification of Mr. Seebohm's method in labelling specimens, and have used it, and know of its being used by others to a small extent on labels in private cabinets, to express the relationships of connecting links between recognized subspecies. Without some such compromise such intergrading specimens cannot be satisfactorily designated, there being many such — all inhabiting certain intermediate geographical areas — that cannot be referred with propriety to one form rather than to another, they being so exactly intermediate between them; and yet to give them still another name, thus raising them to the rank of an additional subspecies, seems an unwarranted or at least injudicious piece of refinement. But for the proper designation of such connecting links Mr. Seebohm's compromise seems to go but half the way. For instance, to illustrate, taking (hypothetically) Mr. Seebohm's case of the Nuthatches: For the Nuthatches the full form of designation requires the repetition of the specific name (*europæa*) after the generic name (*Sitta*) in each case. So we have *Sitta europæa cæsia*, *Sitta europæa cæsia-uralensis*, *Sitta europæa uralensis*, and so on. Mr. Seebohm asks, "What can be more simple than to call the intermediate forms by both names, *Sitta* [*europæa*] *cæsia-uralensis?*" Certainly, nothing could be simpler. But the intermediate forms—the connecting links — are obviously not of uniform character; in the nature of the case they cannot be. As we proceed eastward from the habitat of the typical or most differentiated phase of *cæsia* toward the region of the most extreme phase of *uralensis* we meet first with intermediates which are more closely allied to *cæsia* than they are to *uralensis;* then with phases as nearly allied to the one as to the other; and finally, in our eastward journey, with those more like *uralensis* than like *cæsia.* But all these intermediates that depart appreciably from either type Mr. Seebohm would call *cæsia-uralensis*, thereby ignoring the fact that a large part of the intermediates are allied more closely to *cæsia* than they are to *uralensis*, and another large part more closely to *uralensis* than to *cæsia.* If, however, we employ for the first element of the fourth name the name of the form to which these intermediates are most closely allied we are able in every case to exactly express their status and affinities. Thus, on the one hand, we would use the combination *cæsia-uralensis* for those intermediates which are more nearly allied to *cæsia* than to *uralensis*, and, on the other, *uralensis-cæsia* for those that more nearly resemble *uralensis* than *cæsia.* This would be equivalent to saying, *Sitta europæa cæsia*, varying toward *uralensis*, and similarly in other cases. Theoretically there should be a distinctive designation for those which are exactly intermediate — as well referable to the one form as to the other; but such intermediates being few in comparison with the number that lean appreciably to the one side or the other, they may be practically ignored without great loss in exactness of expression; unless we further compromise by agreeing to designate them by writing the two names as one word, without the hyphen, thus, *cæsiauralensis*, the first term, *i.e.*, whether *cæsia* or *uralensis*, being determined by the rule of priority, the older name being allowed in all cases to stand first. It might seem preferable to place first the name of what may be supposed to be the stock form, or that from which the others have been differentiated; but the objection to this would be the liability to disagreement among zoölogists as to what was the stock form, and thus open the way to diversity of ruling, which adherence to the rule of priority prevents.

In this way we have provision for designating all possible degrees and qualities of relationship in the connecting links between subspecies. This, added to the trinomial system, allows for a degree of refinement in the expression of relationship sufficient to meet every possible contingency. It furnishes a system at once complete and exhaustive, and involves the use of no more terms than Mr. Seebohm's compromise contemplates. We simply ring the changes on the two hyphenized words making up Mr. Seebohm's third term. It likewise should prove a check upon the tendency on the part of indiscreet authors to invent new terms in their struggle to give 'handles to facts' in geographical variation among animals. I do not see why the system may not apply equally well to other classes of animals, and indeed in palæontology, where we have intermediate phases due to gradual differentiation in time, as well as under the geographical condition of space, the principle involved being the same.

But what does all this give us as a system of nomenclature? Not a *tri*nominal one certainly, but rather a polynomial or, as Dr. Coues would say (see *anteà* p. 321), a polyonymal, one; and yet one not in any way comparable with the polyonymal system of præ-Linnæan writers, but one based on a definite principle, and contrived with reference to the expression of ascertained facts in the evolution of life.

The only objection to the system is its cumbrousness, and this, at first sight, seems a grave one when compared with the binomial (or dionymal) system, but when weighed in view of the great degree of precision and refinement of expression attainable, the question as to its utility is certainly an open one. Were there not evidently a feeling on the part of at least a few leading zoölogists that even a trinomial (or trionymal) system, while a step in the right direction, fails to meet the requirements of the case, as so forcibly stated by Professor Flower in his closing remarks already given in this paper, I should not have ventured upon the suggestions above made. These, as above shown, propose merely a modification, to suit different emergencies, in the composition of Mr. Seebohm's complex third term. I fail to see any objection to this proposed modification, while, on the other hand, it seems to offer special advantages.

Finally, a word on the composition of these polyonymal names. Obviously the specific name of a group of subspecies should be the earliest name applied to any member of the group; this of course should invariably form the second term in the designations of the several subspecies. Then follows the name of the different subspecies as the third term, when relating to their ordinary phases. When the third term becomes complex, through an effort to designate intermediate forms between two formally recognized subspecies, the first element of the complex term should be that of the subspecies to which the intermediates are most nearly allied; and so on, as already explained.

Doubtless for all ordinary occasions the simple trionymal form will be sufficient, but when greater exactitude may be required or seem desirable, as not infrequently happens, I certainly can see no shorter or more explicit way of designating the facts in the case than resort to the complex third term, with the above designated changes of position, etc., of its component elements.

COLLECTING IN THE COLORADO DESERT—*LECONTE'S THRASHER.*

BY F. STEPHENS.

DURING the last week of March, 1884, I spent four days in the extreme western end of the Colorado Desert, during which time I picked up several items of interest to ornithologists. As some reader of 'The Auk' may desire to try collecting on this desert, I will give a few hints, especially as they may help others to a better understanding of the 'lay of the country.'

The Southern Pacific Railroad enters the desert from the west through the San Gorgonio Pass, between the San Bernardino Mountains on the north, and the San Jacinto Mountains on the south. These ranges, or spurs from them, diverge toward the east, and enclose the desert between them. Much of this desert lies *below* sea-level, having been cut off from the Gulf of California by alluvial deposits at the mouth of the Colorado River. The railroad passes along the northern edge of the desert, which is uninhabited except by the men necessary to keep the railroad in operation, and by a few Indians. At Indio the railroad company keep up a hotel and eating-house. In the immediate vicinity are small mesquit trees and other brush, and a couple of miles to the north are hills in which are several groves of palms, making it a very fair desert collecting ground.

To get to the part of the desert where I went, it would be necessary to hire a conveyance large enough to carry tent, blankets, horse feed, and provisions enough to last the entire trip, as nothing but water can be procured on the desert, and the water in but few places. Don't forget a canteen, and after the beginning of April don't start for a half-mile walk without having it with you filled with water, as it is an excessively dry climate, and dangerous without water. The thermometer gets to 100° in the shade in April, and even to 130° in July and August.

We entered the desert March 26, 1884, over a sandy, boulder-strewn road, over which it was impossible to drive faster than a walk; and stopped at Agua Caliente, a warm spring a few miles south of the railroad. Half a dozen families of Indians cultivate a few acres of land in the vicinity of the spring, making a green place very grateful to the eye after passing over the cactus-covered desert.

An hour's walk among the little Indian fields revealed several species of common birds, some of which species had not as yet this season made an appearance on the opposite side of the mountains. The most interesting species found near this spring was *Calypte costæ*, and in the three following days they proved quite common all over the plain and in the foothills of the adjacent mountains. I believe the species is resident in the foothills, and it undoubtedly breeds in the cañons. In the afternoon I found an old nest of *Auriparus flaviceps*, the next day taking a bird of this species. I think this is their extreme western limit.

On the morning of the 27th our party started for a visit to a large palm grove, in a cañon six miles south of Agua Caliente. I went on ahead, and among some large larrea bushes, a mile or so from the spring, I heard a bird singing in a low desultory way, that reminded me much of the song of *Harporhynchus lecontei* as I had heard it once in Arizona. On going towards it I saw the singer perched on a dry stem. On my attempting to approach it, it slid off to the ground and struck out on a run, carrying its tail elevated at an angle of about 45°, a more common characteristic of *lecontei* than of any other species of *Harporhynchus* that I am acquainted with. I followed it some distance, but it escaped without my getting a shot, and I failed to find it again, although I searched for half an hour.

Before reaching the palm cañon I shot a male *Lophortyx gambeli*, and saw others. The neighboring foothills furnish *L. californicus*, and *Oreortyx picta plumifera* occurs a few miles further up the mountains.

The grove of palms was tenanted mainly by *Carpodacus frontalis*. Among the masses of dead palm leaves, clustered below the living ones, were many Oriole nests. I climbed several trunks to inspect the nests, finding that they were composed exclusively of the strong hemp-like palm fibres, making a beautiful warm nest. All seen, except one, were attached to the under sides of the masses of dead leaves, among the wind-frayed filaments composing the ends of the old leaves. The exception was one apparently sewed on the under side of a large green leaf. I much wanted to get it, as it was a very pretty nest, but it was impossible to climb past the mass of old leaves which surrounded the trunk some thirty feet from the ground, and was eight or ten feet in diameter and pressed almost solid by the storms of years. I fired several shots at the leaf stem, trying to cut it off, but the tough fibres were too much for my small shot. Nearly all were the shallow, cup-like nests of *Icturus cucullatus*, but one was larger and wider than this species is likely to make, and probably belonged to *I. parisorum*. None were the more purse-like nests of *I. bullocki*. Some nests taken were filled with sound seeds of the palm, evidently placed there by a small species of mouse, of which I saw one. No Orioles were seen in the cañon, but the following day I saw several *I. bullocki* in the cottonwoods around Agua Caliente.

In going back to camp I followed down the stream flowing from the palm cañon. A mile or two below where it sank into the sand I saw another Leconte's Thrasher in a grease-wood bush. I stopped to change cartridges and take off my hat and game bag preparatory to creeping up on it. While doing so another, probably its mate, came in sight in the bush, fluttering around with the one first seen. They were only about a hundred yards distant, but when I got within range they were not in sight, and I could find nothing more of them. They had vanished.

Pursuing my way toward camp I saw a Cactus Wren fly from her nest, which was found to contain four fresh eggs. As usual it was in a cholla cactus, and in the centre of the cactus was an old nest which I was too ill-humored to examine as closely as I should, but I noticed its resemblance to the nest of *Harporhynchus redivivus*, and believe it to have been a nest of *H. lecontei*.

A little further on I heard a low song, and standing still and looking about me I saw *H. lecontei* number four sitting on a low bush not far away. He observed me about the same time, and went off to another low bush. As he flew along I dropped among the weeds, meaning to do my best to get him. I crept along among weeds that were not large enough to hide me, but could get no better cover. I soon saw that he was watching me, and concluded that my game was up, but worked along, flattened as close to the ground as I could get, for several yards, when I came to a wash a few feet wide and a foot or so deep. I meant to try to reach and cross it, and fire from the opposite side, though it was long range. He watched me closely until I got down in the wash, where I swung my gun around and slowly raised it to fire, when I saw that he had absconded. I didn't swear, oh, no! You wouldn't either under such circumstances, would you? The 'confounded fool' had watched me as long as he could see me, and when I hid in the wash he evidently thought it was time for him to go. Perhaps he was not such a fool after all.

The morning of the 28th I left the camp, determined to get a *lecontei* if there was any virtue in perseverance added to my growing experience with this wary species. I found them foemen worthy of my steel, or lead rather. On reaching the place where I saw the first one, I saw him slipping through the brush, he having seen me first. He was again too much for me, as I was able to keep him in sight for but a few yards. A mile or so farther on I heard a call-note new to me, and carefully working toward the sound I saw two more, one of which saw me about the same time and *went*. The call-note still sounded from a little distance to one side, and I concluded that it came from a third bird of this species. The other bird in sight did not appear alarmed, and perhaps had not seen me. I worked a little closer, when it passed leisurely through to the opposite side of the bush. I began to get a little puzzled by its unsuspicious actions, but commenced imitating the call-note, when I was much pleased to hear it reply. I succeeded in calling it out in sight, where I shot it. On picking it up its actions were explained. It was a bird of the year, and when I skinned it a few hours later I saw that it could not have been out of the nest many days.

The call-note is something like *huée-e*, whistled through the teeth. It is low and musical. *H. bendirei* has a somewhat similar call-note, though much louder and sharper. My shot probably alarmed the one I heard, as I could find nothing of it, nor of the other one I saw.

Half an hour later I saw another *H. lecontei* running over the sand, it having seen me first. A sharp run and some dodging among the bush brought me near it, with its suspicions lulled. Profiting by my former experience I began calling it. Presently it answered, and after a little careful calling I got it to sing in a low tone, occasionally stopping to utter its call-note. After a little it gained more confidence and came out in full view, but some movement of mine alarmed it, and it dove into the bush like a flash and was off without my getting a shot. I followed it some time, and got a long range shot but missed it.

I turned toward camp, and as I passed along it occurred to me that as the one I first saw had been in the same place again I might be able to find it there once more. As I had now learned the locality pretty well, I worked up very carefully and succeeded in finding him in the old place without his seeing me. I took no chances, but immediately fired and killed him, finding him to be a fine adult.

I came out again in the afternoon, seeing three, perhaps some of those seen before, but got none.

The next morning we started for home. Some two or three miles from Agua Caliente I saw a bulky nest in a cholla cactus by the side of the road. It struck me as appearing like a Thrasher's nest, and I got out to examine it. It contained three eggs, which I at once saw were new to me. They were evidently those of some *Harporhynchus*, but certainly not *redivivus*.

As the nest had evidently been deserted some time I knew of no way of *positively* identifying them, but I believe them to be *lecontei*, especially as they tally well with Mr. Holterhoff's description of the nest and eggs of *H. lecontei*, taken by him at Flowing Well, farther east on this same desert. The nest was built among the branches of the cholla, nearly in the centre of its mass. From its situation it took an oblong shape. It measured 3½ inches inside in diameter by 2½ inches in depth. Outside it was about 8 × 12 inches. The eggs were bedded in fine sand that had been blown in by the fierce desert winds, and over them lay several twigs similar to those of the outer part of the nest, and were probably once a part of it. The nest may have been abandoned some weeks, as the contents of the eggs were somewhat decomposed but not dried. One contained an embryo of considerable size.

I have given my experience with the Leconte's Thrashers with much detail; perhaps too much; but I desired to give as good an idea as I could of the little known habits of this rare bird. It is probable that in this locality the species is at least as abundant as in any other the species frequents.

The species must have a very long breeding season, as the finding of a young bird already out of the nest in March, added to the date of Mr. Holterhoff's set, which was in July, if my memory serves me right, makes at least five months' range of nesting. Coupling the long breeding season with the rarity and wariness of the birds, makes the chances for finding eggs of this species exceedingly small; so few collectors are likely to ever include eggs of *Harporhynchus lecontei* in their collections.

My note book contains a list of about fifty species noted on this desert during the four days mentioned. The migration was at least a week farther advanced than on the coast side of mountains.

ANALECTA ORNITHOLOGICA.

Third Series.

BY LEONHARD STEJNEGER.

XI. NOTES ON ARCTIC *Lari*.

MR. E. W. NELSON, in his 'Birds of Bering Sea,' p. 106, advances the opinion that *Rissa brevirostris* "undoubtedly occurs about the shores of Okhotsk Sea." I have been unable to find any direct record of its occurrence there, or any data upon which to base such a conclusion. Von Schrenck even, when conjecturing what birds may possibly occur in that sea, omits it. Pallas did not know it, nor did Steller, Merck, or any of the older travellers meet with it. Middendorf collected on the shores of the Okhotsk Sea, as did likewise v. Schrenck, but without finding it. Dybowski also visited these parts of that distant region, and Taczanowski did not even include it in his Critical Reviews of the 'Ornithological Fauna of Eastern Siberia.' Nor has it been obtained by any of the ardent ornithologists who have been residing in Japan of late, and who also have had collectors in the Kurile Islands. That most successful collector, Wossnessenski, spent a long time on the latter islands, but it is not known that he collected this species there. I even doubt whether there is any authentic record of its ever having been obtained on the eastern coast of the mainland of Kamtschatka, the only places, in the Old World, where, to my knowledge, this species occurs being Bering and Copper Islands.

Such conjectures as to distribution are always dangerous. The next step is, that an uncritical author takes up Nelson's statement as an undoubted fact, the assertion goes into other works, and future writers will have the greatest difficulty in tracing it back to its original source. There is no need of extending the geographical range of a species before actual facts are at hand.

I should also like to make a few remarks on the bird which Mr. Nelson gives as *Larus affinis* Reinh. This is a species the history and distribution of which are still involved in great uncertainty. The National Museum has no specimen, and I doubt whether any American museum is the fortunate owner of a genuine *affinis*. The identification of this species requires comparison of specimens, or access to a rather scattered literature. It would seem that Mr. Nelson did not procure any specimen of this very difficult species; nevertheless it is identified without hesitation. If the species was only determined on seeing the flying bird, the statement of the occurrence of *affinis* as common in Plover Bay is simply valueless. If birds were killed, but not preserved, and notes taken, including measurements and colors of the naked parts, especially the feet, and a very accurate determination of the shade of the mantle, then the birds may be determinable, but until these be published, I am unable to say to which species Nelson's *affinis* should be referred.

The group of the *Lari* is so extremely difficult a one that observations, not based upon the most careful identification, are worse than none.

There is further confusion among the Gulls of Nelson's 'Birds of Bering Sea,' to which 'the Erratum Leaf' gives no clue whatever. No. 149 (page 106) is headed "*Larus leucopterus* Faber. Glaucus Winged Gull." Of this he says: "This species was found with the preceding [*L. glaucus*], and perhaps outnumbering the Glaucus Gull upon the Aleutian Islands, in the spring of 1877." The heading is evidently a mix-up of *Larus leucopterus* and *L. glaucescens*, the Latin name belonging to the former, the English appellation to the latter. In fact, the text refers mostly, if not exclusively, to *L. glaucescens*, one of the most common species of the region, the name *glaucescens*, however, appearing nowhere in his book. But what does the concluding paragraph — "it may usually be distinguished when in company with the latter [*glaucus*] by its smaller size" — mean? If *leucopterus*, it is correct. If *glaucescens*, it has hardly any sense, for when *glaucus* and *glaucescens* are together they may be easily distinguished by the color alone, while I will defy anybody to tell the living birds of these two species apart by the size. I would add, however, that I would not accept the identification even of *glaucus* and *leucopterus*, if only based upon observation of the flying bird.

I abstain from any remark upon the statement "None were seen at Point Barrow, although they undoubtedly occur there," as I do not know whether it relates to *leucopterus* proper, or is only a case similar to the 'undoubted' occurrence of *Rissa brevirostris* in the Okhotsk Sea.

XII. *Chrysomitris* OR *Spinus?*

The generic term *Spinus* Koch has been rejected for several reasons. Some authors, following Gray, refuse to accept it because preoccupied in 1752 by Möhring for a genus **having** *Emberiza miliaria* Linn. for type; but as we do not recognize the genera of Möhring, as given prior to 1758, its previous use by him does not prejudice its employment in the Linnæan nomenclature. The other reason for excluding the name, given by Koch, is, that the type of his genus was considered to be

Fringilla carduelis, the principal reason for this assumption being that Koch mentions *carduelis* before *spinus*. This method of ascertaining the type, however, has been long ago given up, but some few remains of its employment in earlier days still linger, as, for instance, in the present case.

Looking wholly apart from the probability that Koch, if going to specify the type of his genus *Spinus* in the same way as we do at the present time, most likely would have chosen *Fringilla spinus*, the question may be solved satisfactorily by the 'method of elimination.'

Both *carduelis* and *spinus*, originally included by Linnæus in the genus *Fringilla* (1758), were moved into the genus *Carduelis* by Brisson (1760), and afterwards by Schäffer (1789) (*cf.* 'The Auk,' 1884, p. 145). Neither of them indicated a type, although it may be safe to assume that *F. carduelis* would have been the type of Brisson's *Carduelis*. In 1816 Koch applied the name *Spinus* to the same two species plus *Acanthis linaria;* as already remarked he did not indicate a type either. Consequently the next author who might choose a type for them was justified in so doing, *linaria* being out of question as the type of Bechstein's *Acanthis*. That was done by Boie, who, in 1822, separated the two, designating *carduelis* as the type of the restricted genus *Carduelis*, while in 1826 the same author made *F. tristis* ('u. a.' = und andere—and others—evidently among these including *F. spinus*) the type of the restricted genus *Spinus*. The two genera, therefore, will stand as *Carduelis* Brisson, restricted and provided with type by Boie, and *Spinus* Koch, also restricted and provided with type by Boie.

The synonymy of the genus *Spinus* may be tabulated thus:

Genus **Spinus*** Koch.

< 1760.—*Carduelis* Brisson, Orn. III, p. 53 (type *Fr. carduelis* Lin.)
<1803.—*Acanthis* Bechstein, Orn. Tash. Deutschl. p. 125 (type *F. linaria* Lin.)
<1816.—*Spinus* Koch, Bayr. Zool. (p. 233) (type *Fr. spinus* Lin.)
[=1826.—*Spinus* Boie, Isis, 1826, p. 974.]
=1828.—*Chrysomitris* Boie, Isis. 1828, p. 322. (Same type.)
<1851.—*Astragalinus* Cabanis, Mus. Hein. I, p. 159 (type *F. tristis* Lin.)

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* **Σπῖνος**, ό. the name of a small bird, as given by Aristophanes.

The North American species should stand thus:

181.* *Spinus tristis* (Linn.).
182. *Spinus psaltria* (Say).
182*a*. *Spinus psaltria arizonæ* (Coues).
182*b*. *Spinus psaltria mexicanus* (Sw.).
183. *Spinus lawrencii* (Cass.).
184. *Spinus notatus* (Dubus).
185. *Spinus pinus* (Wils.).

XIII. ON THE SYSTEMATIC NAME OF THE AMERICAN HAWK OWL.

The aim of the present article is to show that the name *Strix funerea* Lin. is untenable for the American Hawk Owl, belonging properly to its continental European representative. Taking Linnæus's 10th edition (1768) of his 'Systema Naturalis' for our nomenclatural starting point we find on p. 93 of that work (Vol. I):

"*Strix funerea.*
7. S. capite lævi, corpore fusco, iridibus flavis. *Fn. svec.* 51 [1st ed. 1746].
Ulula flammeata *Frisch. av. t.* 98? *Habitat in* Europa."

This quotation needs no further comment in order to point out that the name belongs to the European bird and not to the American subspecies, and does not even include the latter. But not even those authors starting from the 12th edition (1766) are justified in applying this term to the American bird.

Two years after the publication of the 10th edition, Mr. Brisson, in his most admirable 'Ornithologia' (I, p. 518, 1760) described the latter as *Strix canadensis.* From his clear description Linnæus at once perceived that *Strix canadensis* was conspecific with his *funerea.* In the 12th edition, published six years after Brisson's work, the text was therefore altered accordingly, and reads thus:

"*Strix funerea.*
S. capite lævi, corpore fusco, iridibus flavis. *Fn. svec.* 75 [2d ed. 1761].
Strix canadensis *Briss. av.* I, *p.*, 518, *t.* 37, *f.* 2.
Habitat in Europa et America *septentrionali.*"

That Linnæus erroneously considered the American form absolutely identical with the one he had originally described as occurring in Europe only, does not make the name applied first to the latter, and subsequently to both, available for the former only, and *funerea* can, therefore, by no means be employed for the American Hawk Owl, neither by the advocates of the 10th edition nor by those favoring that of 1766.

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* Ridgway's 'Nomenclature.'

It might from the above appear as if we were compelled then to use *funerea* for the European bird, but this is not necessarily the case. Linnæus in both editions, on the same page, described the same species under another name, viz., *Strix ulula*, and there is every reason for retaining this name, which has been in general use of late by both the 10th and the 12th edition parties, and is especially commendable for the European bird, since Linnæus himself never mixed it up with its relative on the other side of the Atlantic.

The first binomial name for the American Hawk Owl will be found to be P. St. Müller's *Strix caparoch*[*] (not *caparacoch* as quoted by some authors), published in 1779, consequently being nine years older than Gmelin's *Strix hudsonia.* Both these names are based upon pl. 62 of Edward's 'Natural History,' and consequently equally pertinent, and Buffon's Caparacoch, quoted by both of them, is also founded upon the same plate and description.

The immediate source of Müller's account is Boddaert's 'Kortbegrip' (p. 112, 1772), and the lapsus of the latter in writing "Caparoch" in place of 'Caparacoch,' and giving the habitat as Europe instead of North America, reappear in Müller's transcription.

The Hawk Owls of Mr. Ridgway's 'Nomenclature' (p. 37) should, therefore, stand as:

407*a*. **Surnia ulula** (*Linn*). *Bp.* EUROPEAN HAWK OWL.
407. **Surnia ulula caparoch** (*Müll.*). AMERICAN HAWK OWL.

The name of the latter is atrociously barbarous, but, however, in that respect is not worse than many others; and it will be found quite convenient, when we first have got used to it. It certainly is much more distinctive than *funerea*, and its sound is just as suggestive of the American habitat of its owner as would be

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[*] *Strix caparoch* P. St. Müller, Suppl. S. N. p. 69 (1779).

Brisson's *canadensis* or Gmelin's *hudsonia*. It is an (accidental?) abbreviation of the original 'Caparacoch,' said to be the name of the bird among the natives of the Hudson's Bay Territory, but not even the most furious purist is expected to request its emendation into 'classical' Indian.

XIV. ON *Sterna nilotica* OF HASSELQUIST.

In the third volume of his 'Hand-list of Birds' (1871), p. 119, G. R. Gray enumerates the Gull-billed Tern as *Sterna* (*Gelichelidon*) *nilotica* Hasselq.,† giving Montagu's *anglica* as a synonym only.

The original edition of Hasselquist's 'Iter' was published in 1757, the name thus antedating both the 10th and the 12th editions of Linnæi 'Systema Naturalis.' In 1762, however, a German version was issued, and the names occuring in this edition are, of course, available to ornithologists favoring the 10th edition (1758) of Linnæus as the nomenclatural starting point. As the name is also incorporated in Gmelin's 'Systema' it is moreover acceptable to those author's rejecting names given earlier than 1766.

It will thus be seen that there is no escape from the name *nilotica* for either 'school,' provided the description is pertinent. It is true that Mr. Howard Saunders (P. Z. S., 1876, p. 645) says, that "there is nothing in his [Hasselquist's] description to prove that this was the bird referred to"; but an examination of the literature has convinced me of quite the reverse.

Having at hand only Latham's and Gmelin's versions of Hasselquist's original description, I shall not go further into detail, but will only ask persons interested in the question to select of their series a specimen of the Gull-billed Tern in winter plumage, in which the black spots on the nape and on the sides of the head are very pronounced, and compare it with the following description as given by Latham (Synops. Birds, III, pt. ii, 1785, p. 356):

"8. EGYPTIAN T. Sterna Nilotica, *Hasselq. It.* p. 273, No. 41.

DESCRIPTION. Size of a *Pigeon*. Bill black: head and upper part of the neck ash-colour, marked with small blackish spots: round the eyes black,

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† It is a question whether the correct quotation should not be "Linn. in Hasselquist's 'Iter,'" as Linnæus in the preface (German edition, 1762) says that he has himself determined every specimen "according to its kind, adding the names of the animals and plants."

dotted with white: back, wings, and tail, ash-colour: the outer quills deep ash-colour: all the under parts white: legs flesh-colour: claws black.

"PLACE. Inhabits *Egypt*: found in flocks in *January*, especially about *Cairo*."

This description fits better than the average descriptions of that time. The only discrepancy of any account is that the feet are said to be 'flesh-colour,' while in the living bird in winter they are decidedly brown. The color in the dried skin, however, is such as to easily induce the describer to believe that they were flesh-colored in life. On the other hand the mistake of the author is not worse than the errors of Linnæus in describing the feet of ***Sterna nigra*** as 'rubri,' those of ***fissipes*** as rubicundi,' and those of ***nævia*** as 'virescentes'; in fact the descriptions of the old authors are so defective, as far as the colors of the naked parts are concerned, that little stress can be laid upon them except in cases where they are known not to change when the specimens become dry. Gmelin's description (Syst. Nat., I, 2, 1788, p. 606), is essentially the same as that given above.

Of course the statement concerning the locality is not diagnostic *per se;* but it has to be taken into account. If the description is diagnostic at the time of its publication, that is all that is required; and if the species described is said to have been common in Egypt at the time of its discovery it would not imperil the pertinency of the name if afterwards a species was discovered in a distant locality, to which the first diagnosis might equally well apply. And in the present instance the habitat assigned to the ***nilotica*** corroborates the opinion here advocated, that it is the same bird which many years after (1813) was called ***anglica.*** In confirmation I extract the following from Dresser's Birds of Europe, concerning the geographical distribution of ***Sterna anglica***: "Throughout Southern Europe . . . and North Africa, eastward to Southern Siberia and the China Seas down to Australia. . . . In Great Britain it is a rare straggler . . . . Captain Shelley says that he found it most plentiful in Lower Egypt and the Fayoon, and frequently met with it as far up the Nile as Sioot; and von Heuglin states that it is a resident, and breeds in the lagoons of Lower Egypt, and is by no means rare on the Nile, where it ranges southward to the Blue and White Nile."

I think the above is sufficient to show that Hasselquist's name is the proper appellation for the Gull-billed Tern, which I contend should stand as

679. [Ridgw. Nomencl.] **Gelochelidon nilotica** (*Hasselq.*).—GULL-BILLED TERN,

thinking the structural characters to be of sufficient value to justify the generic separation of the species.

XV. *Habia* AGAINST *Zamelodia*.

In creating the new generic name *Zamelodia* Dr. Coues says as follows (Bull. Nutt. Orn. Club, V, 1880, p. 98): "The genus *Hedymeles*, Cab., 1851, was based upon this species [*Goniaphæa ludoviciana*], but cannot be used for it because of *Hedymela*, Sundev. (Öfv. Vet. Akad., 1846, 223) for another genus of birds, the difference being merely dialectic. Cabanis seems to have proposed it simply because '*Habia* Reich. 1850' was not classically correct. But *Habia* or *Abia* is said to be antedated by *Habia*, Lesson, 1831, and therefore untenable."

It is Agassiz (Nomcl. Zool., Aves, p. 34 (1843)) who first quotes "Habia *Less.* Tr. d'Ornith. 1831,"—afterwards (Index Univers., p. 1 (1846)) 'correcting' it into *Abia;* but an inspection of Lesson's 'Traité,' etc., will show that *Habia*, as used by him, is only the French vernacular name applied to the birds of the genus *Saltator* Vieill., and Agassiz might just as well have cited "Habia *Vieill.*, Analyse 1816," for that is the place where Vieillot himself applies the name as the vernacular equivalent of the systematic name *Saltator* proposed simultaneously, as the following quotation from p. 32 of his 'Analyse' shows:

"66. HABIA, de Azara, *Saltator*."

The following year he repeated the same in the 14th volume of the 'Nouvelle Dictionnaire.' thus (p. 102):

"**Habia**, *Saltator*, Vieill.;"

Lesson simply follows Vieillot, reducing the name to a subgeneric term, however (Tr. d'Orn., p. 464):

"V^e Sous-genre. **Habia**; *Saltator*, Vieill."

All the 'French' names are printed in 'heavy face,' while the 'Latin' names are in 'italics' the whole book through.

It will thus be seen, that *Habia* was not used by Lesson or Vieillot as a systematic generic term, and Reichenbach was, therefore, fully justified in applying it as he did, viz., as the name of the genus having the Black-headed Grosbeak for type. Cabanis gave a new name because *Habia* was 'barbaric'; but as that is not an objection to be considered, we will have to accept it.

The synonymy of the genus stands thus:

Genus **Habia*** REICHB.

1850.—*Habia* REICHENBACH, Avium Syst. Natur. pl. lxxviii ("June 1, 1850"); (type *G. melanocephala* Sw.).

1851.—*Hedymeles* CABANIS, Mus. Hein. I, p. 152 ("June, 1851"); (type *L. ludoviciana* L.; nec *Hedymela* SUNDEV., 1846).

1880.—*Zamelodia* COUES, Bull. Nutt. Orn. Club, V, p. 98 ("April 1880"); (same type).

The species, according to Ridgway's 'Nomenclature,' will stand as:

244 **Habia ludoviciana** (LINN.) ROSE-BREASTED GROSBEAK.

245. **Habia melanocephala** (SWAINS). BLACK-HEADED GROSBEAK.

XVI.—ON THE OLDEST AVAILABLE NAME OF WILSON'S PHALAROPE.

The genus *Steganopus* of Vieillot is usually quoted as having been established by that author in 1823 (Enc. Méth., p. 1106). It is, however, to be found as early as 1819 in the 'Nouveau Dictionnaire d'Histoire Naturelle,' vol. XXXII, where it is properly characterized on p. 136.

An inspection of the same article shows also that the name *Steganopus tricolor* is there applied to Wilson's Phalarope for the first time, consequently four years earlier than Sabine described the same bird as *Phalaropus wilsoni*, as the latter name dates only from the year 1823.

The species, therefore, should stand as

Lobipes tricolor (VIEILL.). WILSON'S PHALAROPE.

A NOTE ON THE GENUS *PROGNE*.

BY R. BOWDLER SHARPE, FOR. MEMB. A. O. U.

HAVING received on loan from the authorities of the U. S. National Museum the types of some of the Purple Martins, which formed part of the studies of Professor Baird in his celebrated 'Review,' I have the pleasure to forward to 'The Auk' my first contribution (out of many, let us hope) to that Journal, on the subject of these interesting specimens.

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* Le nom *Habia* est celui que quatre espèces de cette division [*Saltator*] portent au Paraguay, et que M. de Azara leur a imposé particulièrement.' (Vieill., N. Dict. d'Hist. Nat., XIV, p. 102.)—*Abia*, as emended by Agassiz, would seem to be derived from ἄβιος, in the meaning of "poor, without food," but has no connection with the original *habia*.

I do not propose to treat of *P. dominicensis*, *P. chalybea*, or *P. tapera*, which are easily distinguished, but of the unicolorous blue species, *P. purpurea* (*P. subis*, auct. Amer.), *P. furcata*, and *P. concolor*. I have found, as I believe, a new and easy way of distinguishing these whole-colored species, one which, at least, I have not seen mentioned in any work with which I am acquainted, and this is, by the number and position of the silky-white tufts of feathers on the lower back and flanks. Of these tufts, *P. purpurea* has *two*, one on the side of the lower back, and a second one on the flanks. *P. furcata* has only a *single* white tuft on the lower back, and *P. concolor* has *none at all*.

The geographical distribution of these three species is also interesting, for we find that the Brazilian Purple Martin is true *P. purpurea*, and the adult male of Baird's *Progne elegans* is only *P. purpurea* shot in its winter quarters, which, be it noted, it shares with two other North American Swallows, *Petrochelidon pyrrhonota* and *Hirundo erythrogastra*. The female and young birds of *P. elegans* are of the same species as *P. furcata*, as we have satisfied ourselves by an examination of a large series in the British Museum, and in the collections of Dr. Sclater and Messrs. Salvin and Godman. Female birds from Mendoza are identical with the types of *P. elegans* from Paraguay, and these two localities doubtless mark the horizontal range of *P. furcata*, which De Philippi does not allow to be a Chilian species.

I propose to ornithologists to adopt the name of *P. furcata*, Baird, for the southern Purple Martins, as the *Progne elegans* of the same author is now seen to be founded on examples of two different species. In conclusion I wish to acknowledge the obligation which I owe to Professor Baird and my friends at the U. S. National Museum for the privilege of examining these interesting types, although, thanks to the excellence of Professor Baird's descriptions, I had come to the conclusion here recorded without even seeing the specimens, the loan of which came upon me as a most agreeable surprise.

A NEW SUBSPECIES OF WILLOW GROUSE FROM NEWFOUNDLAND.

BY DR. L. STEJNEGER.

Lagopus alba alleni *Stejneger.* NEWFOUNDLAND WILLOW GROUSE.

SUBSPECIFIC CHAR: Similar to *Lagopus alba* (Gm.), but distinguished by having the shafts of both primaries and secondaries black, and by having the wing-feathers, even some of the coverts, marked and mottled with blackish.

HABITAT: Newfoundland.

The type specimen will be presented to the U. S. National Museum. It measures as follows: Bill from nostrils to tip, 11 mm.; wing (not flattened), 186 mm.; tail-feathers, 111 mm.; tarsus, 40 mm.

Four specimens, all in transition from autumnal to winter plumage, have been examined.*

SECOND MEETING OF THE AMERICAN ORNITHOLOGISTS' UNION.

THE second meeting of the American Ornithologists' Union was recently held at the American Museum of Natural History in New York, the session beginning September 30 and occupying three days. The attendance, though not large, was as large as could reasonably be hoped for, considering the remoteness of residence from the place of meeting of many of the members. Besides sixteen Active Members, several Associate Members attended the meeting, which was rendered memorable by the presence of two of our distinguished Foreign Members, Dr. P. L. Sclater and Mr. Howard Saunders—the present editors of 'The Ibis' and leading members of the B. O. U.—who were cordially invited to take part in the proceedings.

The first day's session began at 11.30 A. M., the President in the chair. After the calling of the roll, and the reading and approval of the minutes of the previous meeting, the Secretary presented his report, in the course of which he gave a summary of the present status of membership in the Union. This official statement gave the number of Active Members as 44; of Foreign,

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* Since writing the above I have examined other specimens from Newfoundland, not less than 14 in all, all of which present the above characters.

20; of Corresponding, 16; of Associate, 63. The Secretary also referred to the very cordial manner in which the distinguished Foreign Members had responded to their notifications of election, which were usually accompanied with hearty expressions of interest in the Union and its work. The Secretary also called attention to the loss the Union had sustained through the death of one of its most eminent Foreign Members, Dr. Hermann Schlegel of Leyden.* He also called attention to the death of two Associate Members—Mr. Edgar A. Small of Hagarstown, Md., and Mr. Henry G. Vennor of Montreal.†

The Secretary's report was followed by that of the Council, which consisted of nominations for membership, and recommendation of certain proposed changes in the Constitution. The latter relate chiefly to the conditions of membership of the class of Associate Members. This provides for the payment of an annual assessment of three dollars, which gives title to one copy of the regular serial publication of the Union, namely, 'The Auk.' Action on these proposed amendments will be taken at the next annual meeting of the Union. In view of these proposed changes, the Council advised the election of only a small number of members to this class at the present meeting. Action being had upon the nominations reported by the Council, the candidates were all unanimously elected. The following four members were added to the list of Active Members, namely: Capt. Thomas W. Blakiston (M. B. O. U.), late of Japan, but now a resident of the United States; Pofessor W. W. Cooke, Red Rock, Ind. Terr.; Dr. Leonhard Stejneger, Washington. D. C. (transferred from the class of Corresponding Members); Mr. Otto Widmann, St. Louis, Mo.

The list of Foreign Members was increased by the addition of the following, five in number: Dr. Hermann Burmeister, Buenos Ayres; Heinrich Gätke, Heligoland; Mr. Howard Saunders, F. L. S., England; Mr. Henry Seebohm, F. L. S., England; Dr. W. Taczanowski, Russia.

The following named were elected Corresponding Members: Dr. J. G. Cooper, Hayward, Cal.; Mr. W. E. D. Scott, American Flag, Pinal Co., Arizona; Dr. C. Altum, Eberswalde, Germany; Dr. John A. Anderson, F. R. S., Calcutta, India;

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* See Auk, I, p. 205. † See Auk, I, p. 306.

U. Bachofen von Echt, Pres. Orn. Verein, Vienna, Austria; W. T. Blanford, F. R. S., London, Eng.; Dr. Louis Bureau, Nantes, France; Maj. E. A. Butler, Roy. Irish Reg., Belfast, Ireland; Dr. Edouard Baldamus, Coburg, Germany; Dr. Rudolf Blasius and Dr. Wilhelm Blasius, Brunswick, Germany; Dr. Bogdanow, Moscow, Russia; John Cordeaux, Ulceby, Eng.; Dr. Alphonse Dubois, Bruxelles, Belgium; Professor A. Dugès, Mexico; Maj. H. W. Feilden, Roy. Art., Woolwich, Eng.; Dr. Victor Fatio, Geneva, Switz.; Dr. A. Girtanner, St. Galle, Switz.; Dr. Hans Gadow, Cambridge, Eng.; Col. H. H. Godwin-Austin, London, Eng.; Mr. Edward Hargitt, London, Eng.; Dr. Julius von Haast, Christchurch, New Zealand; Dr. E. Holub, Vienna, Aust.; Dr. C. F. Homeyer, Pres. Allg. Orn. Deutsch. Gesells., Berlin, Germ.; Dr. C. F. W. Krukenberg, Wurzburg, Germ.; Dr. Theobold J. Kruper, Athens, Greece; E. L. Layard, H. B. M. Con., Noumea, New Cal.; Graf. A. F. Marschall, Vienna, Aust.; Dr. A. B. Meyer, Dresden, Germ.; Dr. Julius von Madarász, Budapest; Dr. M. Menzbier, Moscow, Russ.; Dr. A. von Mojsisovics, Gratz; Dr. A. J. Malmgren, Helsingfors, Finland; Dr. A. von Middendorf, Dorpat, Russia; Mr. Frank Nicholson, Manchester, Eng.; E. W. Oates, London, Eng.; Col. N. Prejevalsky, St. Petersburg, Russia; Dr. R. Philippi, Santiago, Chili; Dr. Gustav Radde, Tiflis, Russia; Mr. E. P. Ramsey, Sidney, N. S. W., Australia; Dr. Anton Reichenow, Berlin, Germ.; Dr. Leopold von Schrenck, St. Petersburg, Russia; Capt. G. E. Shelley, London, Eng.; Baron Edmund de Selys-Longchamps, Liège, Belgium; Dr. Herman Shalow, Berlin, Germ.; Dr. W. Severtzow, Russia; Henry Stevenson, F. L. S., Norwich, Eng.; Rev. Canon H. B. Tristram, Durham, Eng.; Count Victor von Tschusi zu Schmidtoffen, Salzburg, Hung.; Dr. Hjalmar Theel, Upsala, Sweden; Don José C. Zeledon, Costa Rica.

Reports of Committees being next in order, the President called for that of the Committee on the 'Revision of the Nomenclature and Classification of North American Birds.' Dr. Elliott Coues, Chairman of the Committee, stated that the Committee had held numerous sittings, and had gone carefully over most of the subject, but as yet had left practically untouched all questions of synonymy, and also classification, as regards the higher groups. The work accomplished was the fixing of the status of the genera and subgenera, and of the species and subspecies. Although so much had been accomplished, there was still much to be done, and therefore the report now rendered must be in the nature of a report of progress.

The first thing the Committee had to determine was the boundaries of the region to be included; and it was decided that North America, as regards the present list of birds, was to be understood as including the continent north of Mexico, Lower California, and Greenland. It had also to determine what evidence should be required for the admission of a species into the list; this it was decided must be proof of its actual capture within the prescribed limits. The Committee also found it necessary, in order to determine the tenability of names, to consider in detail the principles of nomenclature. For this purpose it took, as the most convenient starting point, the 'Stricklandian' or 'B. A. Code,' modifying and supplementing it to the best of its ability to make it meet the contingencies of modern science. The chief innovations are the adoption of the tenth (1758) edition of the 'Systema Naturalis' of Linnæus as the starting-point for the binomial system of nomenclature, and of trinomials for the designation of subspecies. While the spirit of the old code is maintained in strictness, many of its provisions are carried out in greater detail, in the hope of presenting acceptable rules for cases hitherto but imperfectly provided for.

On the completion of this portion of the work, and after having gone carefully over the matter of genera and subgenera, the Committee, with the view of expediting the work before it, divided itself into two sub-committes, to one of which (consisting of Messrs. Ridgway, Brewster, and Henshaw) was assigned the duty of fixing the status of the species and subspecies, and to the other (consisting of Dr. Coues and Mr. Allen) that of codifying the rulings of the Committee on principles of nomenclature. Each Sub-committee later laid the results of its work before the full Committee, by whom it was duly ratified. Wherever doubt arose in reference to the rank of genera or subgenera, or the status of species or subspecies, appeal was at once made to specimens, and decided by careful examination of abundant material.

The voluminous report of the Committee on the special subject of rules was not fully in readiness for the press, but the final codification was so far advanced that the Committee was able to give the full report in substance, and to a large extent in its completed form. The reading of this part of the report (by Dr. Coues) occupied an hour and a half, and was followed by the report (read by Mr. Ridgway) on species and subspecies, including the generic changes, and presenting the list as it will finally appear, waiving such questions of synonymy as are yet to be decided. The report was accepted and adopted unanimously, and recommitted to the Committee, with instructions to complete it and submit it to the Council as soon as practicable, the Council being empowered and instructed to accept and adopt the report as finally rendered, with such changes and modifications as they may deem necessary, and to publish the same, under copyright, in part or in whole, in one or more forms, in the name and under the auspices of the American Ornithologists' Union. The reading and acceptance of the report concluded the proceedings of the first day's session.

At the second day's session the report of the Committee 'On the Eligibility or Ineligibility of the European House Sparrow in America,' was then presented by the Chairman of the Committee, Dr. J. B. Holder. The Committee, immediately after its appointment, issued a circular letter embodying a series of questions framed to elicit as fully as possible information regarding the habits of this bird. The circular was largely distributed among agriculturists, gardeners, and persons of known ability and unbiased judgment in respect to results of observation and experiment. While an attempt was made to gain information concerning the bird's history and its present geographical distribution in this country, the main question called for a fair expression of facts respecting whether the bird was directly or indirectly beneficial to agriculture and horticulture. The twenty-eight questions embraced in the circular called for data respecting its present numbers and its rate of increase; the number of broods and number of young to the brood; its protection by law; to what extent fostered and fed by man; its habits with reference to other birds; its ability and disposition to injure fruit, vegetables, and field cereals; its food, whether vegetable or insect, both in respect to the nestlings and adult, and the kinds of insects destroyed; whether known to feed upon the vapor moth (*Orgyia leucostigma*), and ichnuemon flies, and to what extent; and whether the observations reported rested upon actual observation and dissection. The large number of returns received bear overwhelmingly against the Sparrow. There is ample testimony showing that the young are fed pretty uniformly upon the larvæ of numerous species of insects, and that the adult birds prefer grain and the seeds of indigenous plants. Evidently the services of this bird are not to be overlooked. On the other hand, testimony of a conclusive character points to the retirement of our native insectivorous birds before the hosts of Sparrows, and leads to the inevitable conclusion that the fostering of this bird tends manifestly to the suppression of birds designed by nature to occupy our woodlands, parks, and gardens. Besides this, there is definite and weighty testimony to the effect that the Sparrows, assembling in large flocks, prove very destructive to fields of grain, instances of which were detailed in the Committee's report. We have, then, also to deal with this bird as a menace to agriculture.

In considering the question of a remedy against the threatened undue increase of the Sparrows, the Committee was loath to advise their wholesale slaughter, but would recommend, as tentative measures, the removal of all nesting boxes or other means of protection from parks and gardens; that they should not be fed; that State laws for their protection should be repealed, and that their transportation for introduction to new localities should be prohibited by legislative enactments, fixing a considerable penalty for such offences. In short, the Sparrows should be subjected to the same struggle for existence as our native birds, which their graminivorous habits, fecundity, and hardy nature too well fit them to maintain. The Committee had taken much pains to secure evidence from those who advocated the cause of the Sparrow, yet the testimony gathered showed that its injurious traits greatly overbalance its beneficial qualities, and that the question as to what we are to do with the Sparrow is really one of great importance, the threatening evil being one of serious magnitude.

The Committee 'On Avian Anatomy' being called upon, Dr. Coues (in the absence of the Chairman, Dr. R. W. Shufeldt,) made a brief report of progress, which was accepted and the Committee continued.

Mr. Brewster, speaking in behalf of the Committee on Oölogy (in the absence of the Chairman, Capt. Chas. E. Bendire, U. S. A.), stated that no meetings of the Committee had been held, and no report had been prepared.

The Committee on Faunal Areas being called on, the Chairman, Mr. Allen, presented a report of progress. He stated that the territory of North America had been divided into districts, each of which had been assigned to a member of the Committee to work up, as follows: (1) To Dr. C. Hart Merriam had been allotted Alaska and British North America south to the St. Lawrence River, and the tier of States bordering the Great Lakes. (2) To Mr. Arthur P. Chadbourne, New England, and the British Provinces south of the St. Lawrence. (3) To Dr. A. K. Fisher, the States east of the Mississippi River south of the Ohio, including New Jersey and Pennsylvania. (4) To Dr. E. A. Mearns, U. S. A., the great interior, from the Mississippi westward to (and including) Idaho, Nevada, and Arizona. (5) To Mr. L. Belding, the Pacific Coast region, or the territory west of Dr. Mearn's district. The plan of the Committee contemplates the graphic representation, by means of colored maps, of the distribution of each species of North American bird, in a way not only to show the extent of its distribution in North America north of Mexico, but also its breeding, winter, and migratory ranges, by means of different tints on the same map. All data obtainable from published works are to be fully utilized, and these then supplemented by new data freshly gathered, through personal exploration on the part of the members or by correspondence with local observers. Fortunately for the Committee, the Chairman stated, a plan of coöperation had been agreed upon between this Committee and that on the Migration of Birds, whereby an important contribution of new data would soon become available, the Chairman of the Migration Committee having requested his numerous observers to send in a briefly annotated list of all the birds occurring at each observer's station, for the purpose of turning over the same to the Committee on the Distribution of Birds. The final results of the Committee's work will include not only an extensive series of maps, but a textual report, and a generalized map illustrative of the Faunal Areas.

Dr. Sclater being called upon, as a distinguished student of the geographical distribution of animals, for remarks, said that he was glad to know that North America, which he knew as the Nearctic Region, was being worked in so thorough a manner. The subject was one of great interest, and he thought the results of the work of this Committee could not fail to be of high importance.

By suggestion of the Chairman, the name of the Committee was changed from a 'Committee on Faunal Areas' to a 'Committee on the Geographical Distribution of North American Birds.' Later, in view of the intimate relation of the work of the two Committees, and the fact that the members of the one were also nearly all members of the other, the two Committees were merged in one under the title of a 'Committee on the Migration and Geographical Distribution of North American Birds,' the original committee on 'Faunal Areas' retaining its organization as a sub-committee of the 'Committee on Migration.'

Mr. Brewster called attention to the wholesale slaughter of birds, particularly of Terns, along our coast for millinery purposes, giving some startling statistics of this destruction, and moved the appointment of a Committee for the protection of North American birds and their eggs against wanton and indiscriminate destruction, the committee to consist of six, with power to increase its number, and to coöperate with other existing protective associations having similar objects in view. After earnest support of the motion by Messrs. Brewster, Chamberlain, Coues, Goss, Merriam, and Sennett, it was unanimously adopted, and the following gentlemen were named as constituting the Committee: William Brewster, H. A. Purdie, George B. Grinnell, Eugene P. Bicknell, William Dutcher, and Frederic A. Ober.

By invitation of the President, Dr. Sclater again addressed the Union, taking for his subject three large and valuable collections of birds, namely that of the Boston Society of Natural History, that of the American Museum of Natural History in New York, and that of the Philadelphia Academy of Natural Sciences. He had been pained to find that neither of these collections was in charge of a paid and competent ornithological curator. They each contain type specimens having high value. A grave responsibility rests upon the possessors of type specimens, the loss or injury of such specimens being a great and irreparable loss to science. He hoped that the Council of the American Ornithologists' Union would take such action as would bring the matter in its true light to the attention of the proper authorities.

The third day's session was occupied largely with the report of the Committee on Bird Migration. The Chairman, Dr. Merriam, gave a *résumé* of the character and plan of the work undertaken by the Committee, and presented reports from several of the superintendents of districts in illustration of the method of tabulating the returns received from observers, and also one report showing the final generalized results. He referred to the circular issued by the Committee,* defining the limits of the districts, thirteen in number, and the duties of the superintendents, and giving instructions as to methods of observation. In order to secure the large number of observers needed for the work. the Chairman wrote personally to 800 editors of newspapers, sending them circulars and asking them to call attention to the character and importance of the work and the need of observers. The press accordingly gave wide currency to the call for aid, abstracts of the circular, and sometimes the circular in full, with favorable editorial comment, being published in several hundred newspapers. This resulted in upwards of 3000 applications to the Committee for circulars of information and instruction, and the enlistment of nearly 700 observers, in addition to the keepers of lighthouses and lightships, raising the total number of observers secured to nearly 1000, distributed as follows: Mississippi Valley District, Professor W. W. Cooke, superintendent, 170; New England District, John H. Sage, superintendent, 142; Atlantic District, Dr. A. K. Fisher, superintendent, 121; Middle-Eastern District, Dr. J. M. Wheaton, superintendent, 90; Quebec and the Maritime Provinces, Montague Chamberlain, superintendent, 56; District of Ontario, Thomas McIlwraith, superintendent, 38; Pacific District, L. Belding, superintendent, 30; Rocky Mountain District, Dr. Edgar A. Mearns, superintendent, 14; Manitoba, Professor W. W. Cooke, superintendent, 10; British Columbia, John Fannin, superintendent, 5; North-West Territories, Ernest E. T. Seaton, superintendent, 5; Newfoundland, James P, Howley, superintendent,—?†

The Committee was fortunate in obtaining the coöperation of the Department of Marine and Fisheries of Canada, and of the Lighthouse Board of the United States. By this means it secured the free distribution of upwards of 1200 sets of schedules and circulars to the keepers of lighthouses, lightships, and beacons in the United States and British North America.

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* See Auk, I, pp. 71-76.

† Not yet heard from.

The returns thus far received are exceedingly voluminous and of great value. They are so extensive that the Committee finds it utterly impossible to elaborate them without considerable pecuniary aid. To show the nature and extent of the labors of the Committee, reports were presented, prepared by the superintendents, on five well-known species. Several of these reports were read at length. The Committee in submitting their report for acceptance as a report of progress, urged that Congress be memorialized in reference to an appropriation of funds for the continuance of the work and the elaboration of the returns. The Union thereupon instructed the Council to prepare and present a proper memorial to Congress, and also to the Canadian Government, in behalf of the Committee, and to consider what other means could be devised to promote the work.

The report also made reference to the work of the International Congress of Ornithologists, and presented an abstract of its proceedings in relation to the migration of birds at its first meeting held a few months since in Vienna, at which was made a strong appeal for international coöperation throughout the world, through the medium of the various governments, which were urged to appropriate sufficient sums of money for the support of stations and the publication of annual reports of the observations made.

Under a call for the presentation of scientific papers, Dr. Stejneger read a paper on a new subspecies of Ptarmigan from Newfoundland,* which gave rise to a long and very interesting discussion on the subject of Ptarmigans in general, and incidental questions, participated in by Mr. D. G. Elliot, Dr. Coues, Dr. Merriam, Messrs. Brewster, Comeau, and Ridgway.

Mr. Sage contributed a number of notes on the occurrence of rare birds in Northern New England, and Dr. Merriam reported the recent capture, by Mr. N. A. Comeau, of a second specimen of the Wheatear (*Saxicola œnanthe*) at Godbout, on the northern shore of the mouth of the St. Lawrence River.

The elections of officers for the ensuing year resulted in the unanimous reëlection of the present incumbents.

The next place of meeting being then brought up for consideration, invitations were announced for the Union to meet at Quebec and Ottawa by Mr. Chamberlain, at Boston by Mr. Brewster, at Washington by Dr. Coues, and at Topeka, Kansas, by Col. Goss. Professor Bickmore, in behalf of the trustees, invited the Union to again meet at the American Museum of Natural History in New York. After some discussion the determination of the next place of meeting was referred to the Council. Resolutions of thanks were then tendered the President and Trustees of the American Müseum of Natural History for their kindness in placing at the disposal of the Union the rooms in which its meetings had been held. Also, on behalf of the Committee on Migration, votes of thanks were tendered to Professor S. F. Baird, Secretary of the Smithsonian Institution, for his kindness in printing for the Committee the schedules for the use of keepers of lights; to the Hon. William Smith, Deputy Minister of Marine and Fisheries of Canada, for his kindness in distributing and collecting the blank schedules and circulars, and for his order making obligatory the filling of said schedules by the keepers of Light Stations in the Dominion; to Major William P. Anderson, C. E., F. R. S. C., of Ottawa, Canada, and to Commander Henry F. Picking, and also to the Press of the United States and Canada, for substantial aid in its work.

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* See this Number of The Auk, p. 369.

The second meeting of the American Ornithologists' Union then adjourned, subject to the call of the President, after a session in every respect satisfactory and profitable.

RECENT LITERATURE.

Brewster on Birds observed in the Gulf of St. Lawrence.*—In a paper of about fifty pages Mr. Brewster gives the results of observations made during a cruise in the Gulf of St. Lawrence between June 24 and August 1, 1881, in the yacht 'Arethusa,' in company with Professor A. Hyatt, Curator of the Boston Society of Natural History, and his assistant Mr. S. Henshaw, and three students of the Institute of Technology. The principal points visited were the Magdalen Islands, Anticosti, and the Mingan Islands. The list of species observed numbers 92, respecting which are notes varying in length from a few lines to several pages. While the notes on the 52 species of land birds abound in items of interest, much more space is devoted to the remaining 40 species of water birds, the account of which forms by far the most important part of the paper. While want of space forbids an extended notice of this very interesting paper, attention may be called to the notes on the Greater Yellow-leg (*Totanus melanoleucus*), of the breeding of which on Anticosti, where it was abundant. Mr. Brewster secured the 'strongest circumstantial evidence'; to the notes on the Gannet (*Sula bassana*), the Cormorants, Gulls, Petrels, Shearwaters, and the various species of the family Alcidæ. A very interesting account is given of the Kittiwake Gull (*Rissa tridactyla*), of which two young birds were taken when but three or four days old and kept as pets. They ate freely of fish, but soon pined, and in two days one of them died, it being impossible to induce them to drink. The survivor was placed in a basin of salt water, hoping that a bath might prove beneficial. To the surprise of all, he instantly began to drink, swallowing the sea-water with evident satisfaction. After this the pet gave no trouble; he had his dish of sea-water constantly within reach, and throve finely, but could never be induced to partake of fresh water. This seems to settle the often-raised question as to how sea birds slake their thirst, at least so far as the Kittiwake is concerned, which would have perished had it not been furnished with sea-water. Very suggestive also are the remarks about Wilson's Petrel (*Oceanites oceanicus*), the breeding of which seems still to remain a mystery. While a common summer bird off our coast from Virginia to the Gulf of St. Lawrence, its breeding grounds still remain to be discovered. Mr. Brewster found on dissecting specimens shot at various times between June 17 and July 25 no evidence that the species was breeding. He therefore hazards the conjecture that "Wilson's Petrel breeds in winter or early spring in tropical or subtropical regions, and visits the coast of the northeastern United States *only in the interim between one breeding season and the next*," and gives his reasons at length for this opinion. He also extends the same generalization to the Shearwaters (*Puffinus major* and *P. fuliginosus*), both of which occur off our northern coast *in summer*, but have never been found breeding. In this opinion he is confirmed by the experience of Capt. J. W. Collins, as detailed in 'The Auk' (I, p. 237), and in the paper which forms the subject of the notice which next follows. As already intimated, the notes on the Common Puffin and the Guillemots are extended and replete with interest. In fact, few papers of so great importance relating to our birds have recently appeared, the matter being not only fresh and original, but attractively presented.—J. A. A.

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* Notes on the Birds observed during a Summer Cruise in the Gulf of St. Lawrence. By William Brewster. Proc. Boston Soc. Nat. Hist., Vol. XXII, pp. 364-412. (Separates issued July 1, 1884.)

Collins's Notes on the Sea Birds of the Fishing Banks.*—As is well-known, various sea-birds have long been used by fishermen for fish bait.

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* Notes on the Habits and Methods of Capture of various species of Sea Birds that occur on the Fishing Banks off the Eastern Coast of North America, and which are used as bait for catching Codfish by New England Fishermen. By Capt. J. W. Collins. Ann. Rep. of the Comm. of Fish and Fisheries for 1882, pp. 311-338, pl. i. (Separates issued August, 1884.)

but just what species are used, how they are obtained, and to what extent employed, are matters respecting which we have hitherto had very little definite information. Captain Collins's 'Notes' are therefore particularly welcome, not only for the information they convey on these points, but also respecting the relative abundance of the sea birds met with on the Fishing Banks, their habits, seasons of occurrence, and migrations. It appears that any species that can be easily captured by the fishermen is used as bait, the larger kinds, as the Shearwaters, Gulls, and Jægers being preferred. The species captured in largest numbers is the Greater Shearwater (*Puffinus major*), of which hundreds are sometimes taken in a few hours. Nearly half of the paper is devoted to a very interesting and detailed account of the habits of this bird and the manner of its capture, the latter being illustrated with a plate entitled 'Hag fishing.'—J. A. A.

Stejneger on Trinomials in American Ornithology.*—The object here in view seems to be to show (1) that trinomials "are neither an American invention nor were they first applied in America to the extent which they are now occupying in this country," and (2) that "the trinomials of present American ornithology can with great propriety be said to date from 1858" (rather than later), when a small number were employed by Professor Baird in his great work on North American birds, to which epoch-making volume is attributed the origin of the 'American School.' In regard to the first proposition, it is claimed that the Swedish ornithologist, Carl Sundevall, is the "father of modern trinomialism in ornithology," who in 1840 began to "treat systematically the ill-defined species as geographical varieties, which he provided with a third name in addition to the specific appellation." "He was followed closely by Herman Schlegel, who, in 1844, applied the system to all the European birds in his 'Revue critique des oiseaux d'Europe;'" who not only adopted the subspecific name without the intervention of any connecting word or letter, but also acknowledged the applicability of the law of priority to trinomials. "For every 18 binomials this first trinomialistic list [Schlegel's] of the birds of Europe contained 1 trinomial." He was soon also followed more or less freely by other prominent European ornithologists. J. H. Blasius, in 1861, in a list of European birds, designated 92 subspecies by trinomials or quadrinomials; "in other words, for every 5⅜ binomials we find 1 tri- or quadrinomial." In 1871 Alph. Dubois, in his 'Conspectus systematicus et geographicus Avium Europæarum,' used trinomials for the designation of 'climatic varieties,' of which there were 125 in a list of 475 species.

As regards the second proposition, attention is called to the fact that Cassin employed, as early as 1854, trinomials for the geographical races of *Bubo virginianus;* that Baird sparingly made use of trinomials in similar cases in 1858, and quite frequently in 1864-1866; that Bryant, in 1865 and 1866, used them freely, and fairly committed himself to their adoption for certain West Indian birds. They also occasionally crept into Mr. Lawrence's papers in 1871. At this time (1864-1871), as Dr. Stejneger observes, "trinomials were in the air infecting all." In 1872 the system of trinomials for geographical races, or subspecies, may be said, however, to have been first formally avowed and adopted, having been used systematically by Coues, Ridgway, and Allen, in papers or works published during that year—by the latter in a paper* published in July, by Dr. Coues in his 'Key,' published in October, and by Mr. Ridgway in a paper† published in December. They had also been adopted by the authors of the 'History of North American Birds,' the greater part of the first volume of which was put in type during 1872,‡ although the work was not published till January, 1874.

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* On the Use of Trinomials in American Ornithology. By Leonhard Stejneger, Proc. U. S. Nat. Mus., 1884, pp. 70-81, July 1, 1884.

Dr. Stejneger also calls attention to the chief objection to trinomialism which has thus far been raised, namely its liability to abuse by indiscreet authors, and arrives at the conclusion that this danger is not very formidable; it being found by actual count that as regards North American birds described between 1871 and 1881, that "the percentage of the untenable trinomials is vastly smaller than that of the binomials," and that if trinomials had not come into use several of the forms described under trinomials would have entered the list of synonyms as pure binomials.

Finally Dr. Stejneger takes up and very ably answers the questions, "(1) Is it necessary to recognize those slight differences which are seen in the so-called local races? (2) Is it necessary to have them designated by a separate name? (3) Why is the trinomial designation to be preferred?" Those who may still have doubts on these points would do well to carefully weigh the replies Dr. Stejneger gives to these questions.—J. A. A.

Baird, Brewer, and Ridgway's Water Birds of North America.§—The publication of the long-looked-for 'Water Birds of North America,' by Baird, Brewer, and Ridgway, is *the* event of the year 1884 in the history of North American ornithology. Beyond the necessarily brief treatment bestowed upon the group by Dr. Coues in the two editions of his 'Key,' the Water Birds of North America, while by no means wholly neglected, especially as regards their nomenclature and classification, have not as a whole been the subject of detailed systematic treatment since the publication of Baird's 'Report' in 1858. In this work the treatment was purely technical, so that we must go back to Audubon before we find the same general handling of the subject from the biographical standpoint. Therefore the need of a work of the character and scope of the present one has long been felt, and impatiently awaited. Its delay, as is well known, has been due to the difficulty of securing a publisher who would undertake the pecuniary risk of so expensive an undertaking. Consequently ornithologists have great reason to be grateful to Professor J. D. Whitney, through whose interest in the work, and the generous coöperation of Mr. Alexander Agassiz, is due its final appearance. Through these combined influences the work, from the bibliographical point of view, has rather complex relations. Primarily it forms volumes XII and XIII of the 'Memoirs' of the Museum of Comparative Zoölogy. It also is complementary to the 'Land Birds' of the California Geological Survey, Professor J. D. Whitney, State Geologist, and to 'A History of North American Birds: Land Birds,' by the authors of the present volumes, of which work it is virtually a continuation. It has also its own separate title of 'The Water Birds of North America.' Professor Whitney, in the 'Introduction' to the present work, explains in detail this complicated relationship, and the circumstances to which it is due. As regards the method of illustration, the work is uniform with the 'Land Birds' of the California Survey, the numerous wood-cuts being inserted in the text, and colored by hand (in the colored copies), instead of being in part grouped in plates and colored by chromo-lithography, as was the case in the three volumes of the 'History of North American Birds.'

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* 'Orn. Reconn.' etc., in Bull. M. C. Zoöl., III, pp. 113-183, July, 1882. See especially p. 119, where the use of varietal names is formally advocated, and 'this method' stated to be 'already in more or less common use.'

† 'On the Relation between Color and Geographical Distribution in Birds,' etc., in Am. Journ. Sci. and Arts (3) IV, pp. 454 *et seq.*, Dec., 1872.

‡ *Cf.* Am. Journ. Sci. and Arts (3) IV, p. 457.

§ Memoirs of the Museum of Comparative Zoölogy at Harvard College, Vols. XII and XIII. The Water Birds of North America. By S. F. Baird, T. M. Brewer, and R. Ridgway. Issued in continuation of the publications of the Geological Survey of California. J. D. Whitney, State Geologist: Boston. Little, Brown, and Company, 1884. 2 vols. 4to. with numerous illustrations in the text. (Vol. I, pp. i-ix, 1-537, June, 1884; Vol. II, pp. i-vi, 1-552, August, 1884.) Issued with both plain and colored plates.

In regard to the text of the 'Water Birds,' the technical part, although originally written some years since, has been brought down with the fullest detail, and with even more than Mr. Ridgway's usual care, to the date of printing; the biographical part remains as left by Dr. Brewer at the time of his death in January, 1880, and is therefore practically nearly five years behind the date of publication. This is certainly unfortunate, in view of the recent rapid increase of our knowledge of the habits and distribution of our water birds, particularly the marine species, but under the circumstances of publication this appears to have been nearly unavoidable.

The water birds are divided into, first 'A. Waders,' and 'B. Swimmers,' "for the convenience of the student," and tentatively further subdivided into the following nine 'orders': I, Herodiones; II, Limicolæ; III, Alectorides; IV, Phœnicopteri; V, Anseres; VI, Steganopodes; VII, Longipennes; VIII, Tubinares; X, Pygopodes. Not only are the characters of the nigher groups quite fully given, but there are analytical keys to the minor groups, as well as to the species and subspecies. The diagnoses and descriptive matter are ample; extremes and averages of measurements of often large series of specimens are usually given, and also special attention to the matter of individual as well as geographical variation. In short, it is sufficient to say that the technical matter, though condensed, is admirably presented.

Perhaps the most striking, and to the lay student the most unlooked for and unwelcome feature of the work, are the numerous changes in nomenclature as compared with Mr. Ridgway's 'Nomenclature of North American Birds,' published in 1881, and the numerous additions to the list of previously recognized North American species. The additions, 23 in number, include, besides several Old World species, some half a score described within the last two years. The additions are:—

Ardea wardi.
Ægialitis mongolica.
Eurynorhynchus pygmæus.
Rallus beldingi.
Fulica atra.
Olor cygnus.
Fuligula rufina.
Mergellus albellus.*
Pelecanus (fuscus?) californicus.†
Phalacrocorax dilophus albociliatus.
Phalacrocorax pelagicus robustus.†
Larus kumlieni.
Larus nelsoni.
Larus schistisagus.
Larus minutus.
Xema furcata.
Diomedea exulans.
Diomedea melanophrys.
Puffinus borealis.
Œstrelata fisheri.
Œstrelata gularis.
Cepphus grylle.‡
Cepphus motzfeldi.

The principal changes in nomenclature are indicated below, the left hand series being the names used in the 'Nomenclature' of 1881, the right hand series those adopted in the 'Water Birds.' In many cases the changes have been for some time foreseen as inevitable; in others their necessity has only recently become evident; a few are here made for the first time. The *bouleversement* is most radical among the Loons, Grebes, and Auks, where the subversions in several cases amount to the actual transposition of names from one group to another. While such transpositions are to be deplored, the future stability of nomenclature of course demands their adoption when shown to be inevitably necessary.

'NOMENCLATURE.'	'WATER BIRDS.'
Herodias alba egretta.	H. egretta.
Vanellus cristatus.	V. capella.
Charadrius pluvialis.	C. apricarius.
Ægialitis cantiaca nivosa.	Æ. alexandrina nivosa.
Gallinago media wilsoni.	G. wilsoni.
Gallinago media.	G. cœlestis.
Totanus glottis.	T. nebularius.
Lobipes hyperboreus.	L. lobatus.
Grus fratercula.	G. canadensis.
" canadensis.	G. mexicanus.

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* Added in view of its probable future occurence.

† Subsp. nov.

‡ Not *Uria grylle* of the Check List, which is now *Cepphus mandti*.

'NOMENCLATURE.'	'WATER BIRDS.'
Olor americanus.	O. columbianus.
Bernicla leucopsis.	Branta leucopsis.
Harelda glacialis.	H. hyemalis.
Polysticta stelleri.	Eniconetta stelleri.
Lampronetta fischeri.	Arctonetta fischeri.
Somateria mollissima dresseri.	S. dresseri.
Tachypetes aquila.	Fregata aquila.
Phalacrocorax violaceus.	P. pelagicus.
P. violaceus resplendens.	P. pelagicus resplendens.
Phalacrocorax bicristatus.	P. urile.
Rissa tridactyla kotzebuei.	R. tridactyla pollicaris.
Sterna regia.	S. maxima.
Sterna cantiaca acuflavida.	S. sandvicensis acuflavida.
Sterna fluviatilis.	S. hirundo.
Sterna macrura.	S. paradisæa.
Hydrochelidon lariformis surinamensis.	H. nigra surinamensis.
Stercorarius buffoni.	S. longicaudatus.
Diomedea brachyura.	D. albatrus.
Diomedea culminata.	Thalassogeron culminatus.
Fulmarus glacialis pacificus.	F. glacialis glupischa.
Priocella tenuirostris.	P. glacialoides.
Priofinus melanurus.	P. cinereus.
Puffinus fuliginosus.	P. stricklandi.*
Œstrelata bulweri.	Bulweria bulweri.
Fregetta grallaria.	Cymodroma † grallaria.
Podiceps holbœlli.	Colymbus holbœlli.
Tachybaptes dominicus.	Podiceps dominicus.
Colymbus torquatus.	Urinator immer.
Colymbus arcticus.	Urinator arcticus.
Colymbus adamsi.	Urinator adamsi.
Colymbus pacificus.	Urinator pacificus.
Colymbus septentrionalis.	Urinator lumme.
Alca impennis.	Plautus impennis.
Utamania torda.	Alca torda.
Lomvia troile.	Uria troile.
Lomvia troile californica.	Uria troile californica.
Lomvia arra.	Uria lomvia arra.
Lomvia arra brünnichi.	Uria lomvia.
Uria grylle.	Cepphus mandtii.
Uria columba.	Cepphus columba.
Uria carbo.	Cepphus carbo.
Simorhynchus pygmæus.	Phaleris pygmæus.
Phaleris psittacula.	Cyclorrhynchus psittacula.

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* Nom. sp. nov.

† Gen. nov.

The reductions from the list of 1881 number only two, namely: *Chen albatus* of the 'Nomenclature' is now made a synonym of *Chen hyperboreus*. and *Brachyrhamphus brachypterus* is similarly referred to *Synthliborhamphus antiquus*.—J. A. A.

Coues and Prentiss's Avifauna Columbiana.—The title* of this interesting brochure, although explicit, fails to fully imply the scope of the work, 4 pages of which are devoted to the 'Literature of the Subject,' 17 to the 'Location and Topography of the District,' 5 to the 'General Character of the Avifauna,' 78 to the 'Annotated List of the Birds,' 8 to a 'Summary and Recapitulation,' and 3 to the 'Game Laws of the District,' following which is a full index. The 100 woodcuts, illustrating structural characters of the birds, are mainly from previous publications by the senior author. Three of the maps —colored, and drawn to the scale of 3 5·9 inches to the mile — illustrate minutely the topography of the three regions into which the District is divided, while the fourth is a general map of the District and immediately contiguous country.

The original 'List of the Birds of the District of Columbia,' etc., published in 1862, contained 226 species, only one of which proves to have been included erroneously. The additions made in the twenty-two years which have intervened number 23, making the total number of the present list 248. In rewriting the list the authors, besides incorporating the additional species, have expanded their annotations about four-fold, through fuller notices of the habits of the species, and in noting the changes in the bird-fauna resulting from the growth of a large city. The subject in general is treated not only with great fulness, but is very attractively set forth, and in general plan forms an excellent model of what a faunal list should be. The preliminary matter includes an account of 'Rail Shooting on the Anacostia River Marshes,' illustrated with two plates. In the 'Recapitulation,' the species are arranged in five categories, from which it appears that 47 are permanent residents, 46 winter residents, and 66 summer visitors, while 49 occur only as spring and autumn migrants, and 40 as very rare or accidental visitors.—J. A. A.

Ridgway on Rare Neotropical Birds.†—The species considered are *Harporhynchus ocellatus* Scl., *Pyranga erythrocephalus* (Sw.), *Zonotrichia quinquestriata* Scl. & Salv., *Contopus ochraceus* Scl. & Salv., and *Panyptila cayennensis* (Gm.), about which there are brief remarks respecting their affinities. Mr. Ridgway is inclined to restrict the genus

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* Bulletin of the United States National Museum, No. 26. Avifauna Columbiana: being a list of Birds ascertained to inhabit the District of Columbia, with the times of arrival and departure of such as are non-residents, and brief notices of habits, etc. The Second Edition, revised to date and entirely rewritten. By Elliott Coues, M. D., Ph.D., Professor of Anatomy in the National Medical College, etc., and D. Webster Prentiss, A.M., M.D., Professor of Materia Medica and Therapeutics in the National Medical College, etc. Washington: Government Printing Office, 1883. 8vo., pp. 133, 100 woodcuts, frontispiece, and 4 folded maps.

† Notes upon some Rare Species of Neotropical Birds. By Robert Ridgway, Curator Department of Birds, United States National Museum. Ibis, Oct. 1883, pp. 399-401.

Zonotrichia to a "very well circumscribed group of purely Nearctic species," and to exclude various Neotropical forms which have been referred to it.—J. A. A.

Ridgway on the Pied Wagtails of Eastern Asia.[*]—Mr. Ridgway believes that Dr. Stejneger's series of five skins collected at Bering Island and in Kamtchatka prove conclusively that it is either only the adult male in summer of *Motacilla amurensis* which has the "back black, while the fully adult female is indistinguishable from *M. ocularis*, or else that these two birds are identical;" *M. amurensis* being the adult male and *M. ocularis* the adult female, or perhaps the winter plumage of both sexes. Mr. Ridgway further suggests that Mr. Seebohm's *M. blakistoni* may be merely the adult male of '*M. amurensis*.'—J. A. A.

Lawrence on New Species of American Birds.[†]—Tbe species here described are 1. *Chrysotis canifrons*, from the Island of Aruba, West Indies; 2. *Formicivora griseigula*, from British Guiana; and 3. *Spermophila parva*, from Tehuantepec City, Mexico.—J. A. A.

Jouy on Birds collected in Japan.[‡]—Mr. Jouy, in a paper of nearly fifty pages, presents his observations made partly at Subashiri, twenty-five miles due west from Yokohama, on the eastern slope of Fuji-Yama, the highest mountain in Japan, and partly near Omachi, at the base of the Tate-Yama Mountains, about one hundred and thirty miles northwest from Yokohama. July and part of June were spent at Fuji-Yama; a short time was passed at Chiusenji Lake, about the beginning of September; while the latter part of this month, October, November, and part of December were devoted to the Tate-Yama. Very full and interesting field-notes are given on about one hundred species, with bibliographical references, and often descriptions of nests and eggs, and previously undescribed immature phases of plumage. Mr. Jouy has evidently made good use of his excellent opportunities, and the results of his work are well presented. As already noted (*anteà*, p. 108), his collections were made for the National Museum.—J. A. A.

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[*] On the Probable Identity of Motacilla ocularis Swinhoe and M. amurensis Seebohm, with Remarks on an Allied supposed Species, M. blakistoni Seebohm. By Robert Ridgway. Proc. U. S. Nat. Mus., 1883, pp. 144-147. Oct. 5, 1883.

[†] Descriptions of New Species of Birds of the Genera Chrysotis, Formicivora, and Spermophila. By George N. Lawrence. Ann. New York Acad. Sci., Vol. II, No. 12. pp. 381-383, 1883.

[‡] Ornithological Notes on Collections made in Japan from June to December, 1882. By Pierre Louis Jouy. Proc. U. S. Nat. Mus., 1883, pp. 273-318. Dec. 27, 1883.

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GENERAL NOTES.

Another Kirtland's Warbler from Michigan.—The National Museum has recently acquired a fully adult male of this species which on the collector's label bears the following legend: "No 111, collection of N. Y. Green. . . . *Dendrœca pinus*. Pine-creeping Warbler. . . . Battle Creek, Mich. . . . May 11, 1883." The specimen, which was generously presented to the National Museum by Mr. J. H. Batty, of Parkville, L. I., is in the highest state of plumage of the fully adult male, and has the yellow of the under parts entirely free from markings on the jugulum, which are present in the type (an immature male changing to spring plumage) and in two of the three adult females in the collection.—ROBERT RIDGWAY, *Washington, D. C.*

Geothlypis trichas wintering in Eastern Massachusetts.—I have recently examined a male Maryland Yellow-throat brought me by a neighbor, which was caught by his cat in the latter part of January, 1884. He was unable to give the exact date, but is positive it was later than the middle of the month. The bird was in fine plumage and good condition, evidently not prevented by disease or injury from accompanying its mates southward at the usual season. As I can find no similar record. I thought it might be well to make a note of the above.—F. C. BROWNE, *Framingham. Mass.*

The Yellow-breasted Chat and Summer Redbird in Canada.—On the 16th of May. 1884, I found the dead body of an olive-backed bird lying on the ground. The maggots fell from it as I took it up, but it was still in condition to show that had I found it a few days sooner I would have added to my collection a perfect specimen of the Yellow-breasted Chat (*Icteria virens*). The bird had evidently been killed by flying against the telegraph wires which pass near where it was found.

Ten days later. when visiting Mr. Dickson. station master of the Grand Trunk Railway at Waterdown. he pointed out to me an old unused mill-race, grown up with briars and brambles, where the day previous he had seen a pair of Chats mated. Mr. Dickson was collecting at the time, and was surprised at their suddenly appearing within ten feet of him, but on his trying to get to a safer shooting distance they disappeared in the thicket and did not again become visible, though they kept continually scolding at him. These are the only records I have of this species being noticed in Canada.

On the mountain above the water work's reservoir is a clump of mixed bush near which lives an old man who knows the birds thoroughly. He has often told me of a season long ago when a number of red birds bred there which had not the black wings and tail of the Scarlet Tanager. I have looked at this bush with interest ever since, and on May 20, this year, as I was scrutinizing a group of Tanagers leisurely sunning themselves among the topmost branches of a tall elm, I noticed one different in plumage from the others. In bringing it down I was greatly pleased to find a fine female of the Summer Redbird (*Pyranga æstiva*), this being the first record of the species for Canada, so far as I am aware.

I think I have also seen the Connecticut Warbler but without actual measurement it is difficult to distinguish between it and the Mourning Warbler.—THOMAS McILWRAITH, *Hamilton, Ontario.*

Breeding of Passerculus princeps on Sable Island.—In the last number of 'The Auk' Mr. Ridgway stated: "The National Museum possesses a considerable series of eggs labelled '*Passerculus savana*, Sable Island, Nova Scotia. July, 1862; J. P. Dodd.' which are uniformly so much larger than those of the Savannah Sparrow as to strongly suggest the probability that they may be in reality those of the Ipswich Sparrow. At any rate the matter is worth investigating, and it is hoped that some reader of 'The Auk' may be able to decide the question" (pp. 292-293). Acting upon the above suggestion I immediately wrote to the Rev. W. A. DesBrisay, a resident missionary of Sable Island, requesting him to send me a specimen of the common 'Gray Bird' of the Island. This he was kind enough to do, and the specimen, in confirmation of Mr. Ridgway's suspicion, proves to be an unquestionable Ipswich Sparrow.—C. HART MERRIAM, *Locust Grove, N. Y.*

The Cardinal Grosbeak breeding in Brooklyn, N. Y.—June 8, 1884, I found *Cardinalis virginianus* breeding in Prospect Park, Brooklyn. The nest, which contained three eggs, was very loosely constructed, principally of the long, slender leaves of various aquatic plants, and was suspended in a mass of vines drooping over the bed of a small brook.—E. T. ADNEY, *29 West 36th St., New York City.*

The Orchard Oriole (*Icterus spurius*) in Western Vermont.—The occurrence of birds beyond their natural or normal habitat is always of interest, since from a study of these occurrences and their causes many facts in regard to geographical distribution are brought out. On June 1, 1883, I had the pleasure of taking two specimens of that rather southern species, the Orchard Oriole (*Icterus spurius*), at Middlebury, Vermont. They were taken on the campus of Middlebury College, and are now in the College Museum. They were both males, one being in the perfect plumage of the adult, the other in the immature dress of the young bird. When shot they were skipping about in the branches of a maple, and a diligent search failed to reveal others of the species. So far as I am able to ascertain, this is the first record of the occurrence of this species in this State.—F. H. KNOWLTON, *National Museum, Washington, D. C.*

The Crow (*Corvus frugivorus*) **as a Fisherman.** — I am courteously permitted by Mr. L. I. Flower of Clifton, N. B., to publish the following note of an interesting incident which came under his observation.

"A few years since, while crossing the Washademock Lake, I noticed a Crow flying close to the surface at a spot where the water is very shoal. Suddenly, when but a short distance from my boat, the Crow thrust his claw down into the water and drew to the surface what I afterward discovered was a fish of about half a pound weight, and then seizing it with his bill, by aid of 'tooth and nail' succeeded in drawing it out of the water and carrying it to an adjacent rock, the fish all the while struggling hard to get free."— MONTAGUE CHAMBERLAIN, *St. John, N. B.*

Odd Nesting-site of a Great-crested Flycatcher.—In 1875, in either the latter part of May or early in June, at Chesnut Hill, a suburb of Philadelphia, but about eight miles northwest of the city proper, a pair of Great-crested Flycatchers (*Myiarchus crinitus*) made three attempts to build a nest in the gutter pipe of an inhabited house. The house was of stone, with a 'French' roof covered with slate. The pipe was of tin and opened out of the gutter about six feet from a window of a boy's room. It was bent at the top at an angle of about 30° from the perpendicular, and at this bend the birds endeavored to lodge their nest. Each time the materials were washed down by rain, and the day after the third flood the birds abandoned the locality. There was not a tree on the place over ten years old, and I have never, before or since, known a Great-crested Flycatcher to establish itself within a mile of the house in question. The house was partly covered with vines, but there were none above or within five feet of the junction of gutter and pipe.—FRANK R. WELSH, *Philadelphia, Pa.*

Duck Hawks breeding in the Helderberg Mountains, New York.—Last summer I observed a pair of Duck Hawks (*Falco peregrinus nævius*) several times in the neighborhood of a high cliff in the Helderberg Mountains, about thirty miles from Albany. Thinking it probable from their actions that they had bred there, I visited the locality last April and found that they had been there some time already. Diligent search was at once commenced for the nest; during which the old birds were frequently seen, and evinced the highest degree of excitability. On the 11th of April the eyrie was discovered: the eggs, four in number, were placed upon the bare surface of a ledge in an extremely wild situation; there was no appearance of a nest, but the eggs were surrounded merely by a few bones and feathers. The birds showed the greatest anger, flying, shrieking, in circles overhead. They were not shot and probably bred elsewhere upon the mountain later on, although their second nest was not discovered. —G. A. LINTNER, *Albany, N. Y.*

Hybrid between Pediœcetes phasianellus and Cupidonia cupido.—On the 1st of February last, or about that date, a curious bird was obtained at a poulterer's shop at Brighton (in England) which had been sent over from America with a large quantity of Grouse—viz., a hybrid between the Sharp-tailed Grouse (*Pediœcetes phasianellus*) and the Pinnated Grouse (*Cupidonia cupido*). The neck ruff is present, but only a quarter of an inch long; the tail, which is brown in the former species and white in the latter, is in the hybrid gray; the sides of the toes are only slightly feathered, and the general color of the plumage is intermediate between the two species. This bird, which through the kindness of Mr. Langton is now in my collection, was a male. Almost all wild hybrids are males, which doubtless arises from the more obscure plumage of the females causing them to be passed over, and this applies as much to Ducks and Finches as to Game-birds. As examples may be cited the cross between a Pochard (*Fuligula ferina*) and a Nyroca (*F. nyroca*), the Linnet (*Linnota cannabina*) cum Greenfinch (*L. chloris*) cross, and the Blackcock (*Tetrao tetrix*) cum Capercaillie (*T. urogallus*), which are almost always all males, though females are picked up now and then. Of the Linnet cum Greenfinch cross, although I have examined many males, I have only seen two females, and I imagine that the experience of other observers in England would be the same.

That no doubt should exist about the hybrid Grouse, it was submitted to Dr. Elliott Coues, who confirmed its origin, adding that he had never seen a specimen before, though he knew of the existence of one, recorded in the 'Nuttall Bulletin' a few years ago.*—J. H. GURNEY, JUN., *Northrepps, Norwich, England.*

Notes on Lagopus leucurus.—As Dr. Stejneger, in an article in a recent number of the 'American Naturalist,' on the moulting of toe nails in the genus *Lagopus*, makes no mention of *L. leucurus*, the following may be of interest.

An average of the nails of 22 winter (November to March) specimens gives 7-10-12-10 mm. for the 1st, 2d, 3d, and 4th toes respectively, and of 6 summer specimens (June and August) gives 6-8-9-8 mm. The extremes are an August bird, measuring 5-7-8-8 mm. and a February bird, showing 8-12-13-11 mm. with claws excessively curved. At first it seemed reasonable to suppose the shorter summer nails were due to wear on rocks, but one August bird showed the moult to be but partially completed, some of the nails falling off in my hands, and others clinging with but a slight hold. One bird showed a formula as follows: 9-12-11-11 mm., the middle claw being perfect and shorter than the 2d or 4th.

I failed to detect any positive difference between the summer plumages of male and female, unless it is in the female being more ochraceous. The fineness of the waving and mottling is variable in both sexes.

The shafts of the primaries are pure white, or white below and either black or dark colored above. The last form is only found in winter birds, and in every case of dark—not black—primary shafts, the webs were spotted with dusky.

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* [By Mr. Brewster, in Vol. II, 1877, pp. 66-68.]

Seven young birds in August had the 1st and 2d primaries more or less white, and the last four pure white. The other primaries were plumbeous, mottled on web-margins with ochraceous.

The tails of the half-grown birds were banded and mottled with brown like the back; showing a bleaching to white along the centres of the outer feathers. One bird—an adult male, taken the last of June—has a black centre spot at the end of an outer tail feather.

During winter the sexes keep in separate flocks. At least so I judge from noting that where two or more birds were taken from a flock, all were of the same sex.—FRANK M. DREW, *Bunker Hill, Ill.*

Eskimo Curlew at San Diego, Cal.—One individual of this species (*Numenius borealis*) was attracted by my decoys and shot, September, 1883. The same day I shot a Hudsonian Curlew from out of a mixed flock of shore birds. Both were new to me at the time, although since the Hudsonian has been seen quite frequently, and was in April, this year, abundant in good-sized flocks, feeding on a grub-pest that pervaded the mesa slopes adjoining the Bay. But this single record of the Eskimo Curlew is, as far as I can learn, the first for this southern coast. The bird was in good plumage, but apparently ill at ease and flying alone—perhaps a straggler which came with the early flocks of the Long-billed Curlew and Willet.—GODFREY HOLTERHOFF, *National City, Cal.*

Nesting of the Little Black Rail in Connecticut.—On the evening of the 13th of July, 1876, one of my neighbors called in to ask me if I cared for a set of Rail's eggs. I did not care very much, as Virginia Rails are very common here, but on inquiry as to what variety he had found, he replied that he could not tell. He had been mowing at the Cove meadows and his scythe had decapitated a Rail sitting on her nest of nine eggs, and he had placed the remains of the bird and eggs—some of them broken—aside for me. I was greatly surprised when I beheld what he had brought me, so totally unlike were they to anything I had ever seen, and it was only after considerable research that I discovered that I possessed something very rare—eggs of the Little Black Rail (*Porzana jamaicensis*). Some of these specimens I sent to my friend, Mr. H. A. Purdie of Boston, for confirmation of their identity, and an account of the find was inserted in the 'Bulletin' of January, 1877. The other specimens I retained in my collection, with no anticipation that opportunity would ever recur for duplicating them. But on the 6th of June, 1884, I made a trip to 'Great Island'—a tract of salt meadow near the mouth of the Connecticut River, on its eastern shore—in search of nests of *Ammodromi* which abound in that locality. During a very successful hunt for them I observed a tuft of green grass carefully woven and interlaced together, too artificially to be the work of nature. 'Merely another Finch's nest,' I mused, as I carefully parted the green bower overhanging it. But wasn't there an extra and audible beat to my pulse when before my astonished gaze lay three beautiful Little Black Rail's eggs? Recovering from my surprise I carefully replaced the disarranged curtain that excluded the sun from the precious eggs, fixed some permanent ranges, and quietly departed to await the completion of the set. A week later, on the 13th of June, I again visited the nest and found therein the full complement of nine eggs.

This nest was situated about forty rods back from the shore of the river, on the moist meadow, often overflowed by the spring tides. The particular spot had not been mowed for several years, and the new grass, springing up through the old, dry, accumulated growths of previous years, was thick, short, and not over eight or ten inches in height—a fine place for Rails to glide unseen among its intricacies. The nest after the complement of eggs were deposited in it resembled that of the common Meadow Lark, it consisting of fine meadow grasses loosely put together, with a covering of the standing grasses woven over it and a passage and entrance at one side. The eggs also have a general resemblance to the Lark's, but differ in several points, being smaller and of a duller white, without the gloss usual on the Lark's. The spots are also smaller than the ordinary markings on the Lark's eggs. In size I find them as follows: No 1, 1.04 X .81 inches; No. 2, 1.04 X .81; No. 3, 1.04 X .79; Nos. 4 and 5, 1.00 X .80; No. 6, 1.00 X .81; No. 7, 1.02 X .80; No. 8, .98 X 81; No. 9, .97 X .80.

Compared with other Rail's eggs, they most resemble in general color those of the Virginia Rail, but the markings are much smaller as well as much more numerous; two of the specimens have, however, large spots, like Virginia Rail's, at the large end; but in the majority the spots are small and abundant. The difference between the two ends, if any, is very slight, the eggs being much less elongated than those of any other Rail I have seen.

I found a Lark's nest the same day within two rods of this Rail's nest, and not very far from it a Virginia Rail's nest. Taking one of the nine eggs therein for comparison, I find it measures 1.30 X .98 inches; rather larger than the average of the species.

I must add an account of my efforts to secure the Little Black Rail with the set. I devoted the whole day to this special end, and visited the nest about every half hour through the day, approaching it with every possible caution, and having a little tuft of cotton directly over the nest to indicate the exact spot; but although I tried it from every quarter with the utmost diligence and watchfulness, I was never able to obtain the slightest glimpse of the bird—never perceived the slightest quiver of the surrounding grass to mark her movements as she glided away, and yet I found the eggs warm every time, indicating that she had but just left them.—JOHN N. CLARK, *Saybrook, Ct.*

The Widgeon in Maine in February.—On the 20th of February last Mr. T. B. Davis, the gunsmith of this city, showed me a recently killed male specimen of the Widgeon (*Mareca americana*), which had been forwarded to him for preservation by a sportsman of Freeport, Maine. The bird had been dead several days. February, 1884, will be remembered as a month of mild and rainy weather. It appears probable, therefore, that this bird should be regarded as an early migrant rather than as a winter resident.

I have looked through the records in vain for specific notice of the Widgeon's occurrence in New England during winter. Dr. Coues, however, both in his 'List of New England Birds' and in 'New England Bird Life,' states, in general terms, that it is to be found at that season.—NATHAN CLIFFORD BROWN, *Portland, Me.*

Pelicans on the Move.—Mr. Wm. Smith, who resides at Burlington Beach, at the west end of Lake Ontario, and who is making observations for the Migration Committee of the A. O. U., reports his station being visited by five White Pelicans on March 13. The wind was blowing strong from the southeast, and the birds came up the lake before it, flying heavily, and passing his house alighted on the ice on the bay. They seemed very tired, and at once squatted flat, with the head and neck drawn in and resting between the shoulders, in which position they might readily have been mistaken for chunks of ice. Mr. Smith examined them closely with his glass at a distance of 300 to 400 yards and then tried to reach them with the rifle. When the ball landed among them they jumped straight up and moved 100 yards farther off. They were very unwilling to move, and gave opportunity for two more long but unsuccessful shots, and finally went off east down the lake again, flying low and hugging the shore for shelter from the wind. The last time this species visited the Bay was in the month of May, and they stayed fishing around the inlet for a day or two, and two of their number were shot by a fisherman; the other two then made off.—T. McILWRAITH, *Hamilton, Ontario.*

Capture of Megalestris skua off the Coast of Cape Cod, Mass.—I shot a specimen of the Skua Gull, on Jaeger, September 10, 1884, about eight miles east of Polluck Rip, as I was on a return trip from the fishing grounds. I had been tolling the Shearwaters for some time with livers taken from our freshly caught codfish, in hopes to attract the attention of other birds, and at the time had at least forty of the Greater and Sooty Shearwaters following; but the day was too hot and still for the birds to be actively flying about, and this was the only new or different kind called in; but I felt more than paid for the trouble, and proud of the capture, which I have carefully mounted with a view to add it to my collection in the State House, Topeka, Kansas. I did not observe the bird until it was well astern, and for fear of loosing it did not wait to note its flight and actions but dropped it on sight.

The specimen was a female, and presents the following characters: Length, 22.00 in., stretch of wing, 54.00; wing, 14.75; tail, 6.00; tarsus 2.40; middle toe and claw, 1.80; bill, 1.95; depth at base, .75; plate or cere, 1.03. Wèight, 2 lbs. 11 oz. Color dark sooty plumbeous or slate, with pale chestnut markings on neck and back, which gives that portion a dull rusty look. Tail and remiges white at base, the white extending out on the latter from ¼ to ½ their length. (I cannot give the exact distances, as the quills are in moult and not full grown.) Shafts of both white to near tips. The two central tail-feathers are not longer than the other tail-feathers.—N. S. Goss, *Topeka*, *Kan.*

Brachyrhamphus hypoleucus off the Coast of Southern California.—On a return trip from the Coronados Isles to San Diego, California, May 20, 1884, when about five miles out to sea, and a little north of the Mexican boundary line, I shot a pair of Xantus's Guillemots. I have the birds in my collection. Notes from 'Catalogue and Register,' entered from memoranda taken at the time of killing:—

Sex.	*Length.*	*Alar extent.*	*Wing.*	*Tail.*	*Tarsus.*	*Bill.*
♂	9.60	16.00	4.65		0.95	0.75
♀	10.10	16.35	4.75		0.95	0.80

Depth of bill at base, .23; width, .20; gape, ♂, 1.30, ♀, 140. Iris dark brown; bill black with sides of under mandible at base pale bluish; inside of legs, tops of feet and webs light blue; outside of legs, bottoms of feet and webs dusky; claws black; the testicles a little larger than swollen kernels of barley; no signs of the enlargement of any of the eggs in the ovary. On the way up I saw three others but was unable to approach near enough for a shot.

The birds closely resemble *B. marmoratus* in winter dress, and, like them, prefer to escape by diving and *flying* under the water, but when hard pressed more readily take wing. This I account for by their legs being longer, which enables them to spring at a bound clear of the water.—N. S. Goss. *Topeka*, *Kan.*

'Avifauna Columbiana'—a Protest.—Coues and Prentiss's late 'Avifauna Columbiana,'* while bearing the seal and token of its authorship in the clear and woodsy style of the notes, that so often give us bright glimpses of the life history of our birds, as well as in the arrangement of the scientific and technical matter, is yet disappointing in some regards, owing to the fact that the authors did not take pains enough to bring their work up to date, or to revise by recent observation the work of twenty-one years ago.

As it stands, the list is misleading in some of its statements, and does not thoroughly represent the recent progress of ornithology in the District of Columbia. In their preface the authors refer with justifiable pride to the first edition, prepared by them while yet in college, as standing "the test of time better than boys' work generally does." In their present edition "there has been found little to correct," "and not much to add, of the authors' own knowledge, because they have paid little attention to the subject during the intervening years. They have, however, *entirely recast*

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* Avifauna Columbiana, by Drs. E. Coues and D. W. Prentiss, a revised edition of their 'List of the Birds of the District of Columbia,' published in the 'Smithsonian Report' for 1861.

the article," and "*embodied the additions to the list made meanwhile, by others.*" It would seem, though, that but two or three of the numerous working ornithologists of the District have been consulted, and these rather for notes on a few specified species than for general information.

As a result, while they add eight species to Jouy's list (Catalogue of the Birds of the District of Columbia, by P. L. Jouy, 1877, which added 16 to Coues and Prentiss's list of 1862), they omit five more, viz.: Sanderling, *Calidris arenaria* (L.) Ill.; Yellow Rail, *Porzana noveboracensis* (Gmel.) Bd.; Sawwhet Owl, *Nyctale acadica* (Gmel.) Bp.; Turnstone, *Strepsilas interpres* (L.) Ill.; and American Pelican, *Pelecanus erythrorhynchus* Gmel.* This does not include two, *Melospiza lincolni* (Aud.) Bd. and *Aegialites melodus circumcinctus* Ridg., which have been obtained since 'Avifauna Columbiana' went to press. Three birds mentioned as seen but not taken, but which should have been entered as taken, are *Archibuteo lagopus sancti-johannis* (Gm.) Ridg., *Porzana jamaicensis* (Gmel.), and *Falco peregrinus* (Tunst.) Cass. Many changes should be made in the remarks on the habits, arrival, and departure of birds; at least eight or ten of the birds noted as 'casual' or 'migrants' should be made winter or summer residents. Some of these inaccuracies may be owing to the changes which have occurred in the topography of the District. For instance, the formation of the great marshes in the Potomac, which is noted in the preface, may have induced the Great White Egret, Night Heron, and others to stay longer with us than they did twenty years ago. But one of the expressed objects of the present edition was to note and record these changes. In one or two instances the neglect to record notes of younger collectors almost lays their work open to more serious charges: in one case information that had been volunteered in regard to a nest and set of eggs of the Blue-winged Yellow Warbler (*Helminthophila pinus*), taken almost within the city limits, identified by Mr. R. Ridgway, and still accessible in Mr. H. Birney's collection, was entirely ignored.

Again, rather than admit a very pardonable error in their first edition, they try, by *ex post facto* evidence, to prove that Mr. P. L. Jouy and Mr. R. Ridgway were wrong in correcting said error. In their original edition they entered two species of Titmice, one *Parus carolinensis*, as 'summer resident,' and the other, *Parus atricapillus*, as 'winter resident.' In 1877, when Mr. Jouy made his 'Catalogue of the Birds of the District of Columbia,' this was the only District record of *atricapillus*, and as specimens of *carolinensis* bearing Coues and Prentiss's label of *atricapillus* are still to be seen in the Smithsonian collection, Mr. Jouy evidently thought that they had been deceived in their indentification of the bird, and struck it out. In this he was justified by the following facts: (1) While *P. carolinensis* is not a rare summer resident, it is very abundant in the winter; (2) there was not a specimen of *atricapillus* taken in the District extant, except those on which Coues and Prentiss had evidently entered the species, and which differed from *carolinensis* only on the label; (3) the improbability that, if such accurate observers as our authors had proved themselves to be, had ever seen an *atricapillus* they would allow a *carolinensis* afterwards to bear a wrong label.

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* For full notes on these birds see 'The Pastime,' Washington, D. C. (Vol. 3, Nos. 1 and 2.)

In the severe winter of 1878-79, Mr. William Palmer obtained several specimens of *atricapillus* in the District, and now Coues and Prentiss replace the bird, remarking that "Mr. Jouy subtracted the species wrongly, as now appears" (p. 9); and again (p. 37), "in the original edition we gave this species as a winter resident, and correctly so, though the name has recently been expunged from the list by Mr. Jouy (Cat. B. of D. C., 1877.) . . . It seems that after all the two boys may have been right in stating, as they did with hesitation in 1862, that *P. carolinensis* is the ordinary summer Tit; and that specimens indistinguishable from ordinary *atricapillus* occur in winter." If any hesitation was felt by the authors in 1862, they fail to show it in their text, but entered both species on an equal footing as summer or winter resident. And they perpetuate the error in the present edition, instead of placing *atricapillus* among the rare winter stragglers, and *carolinensis* as a permanent resident.

Had the authors asked for general notes from even the few collectors they did consult, they could not have kept some of their species so rare as they did, their unique specimen of Cape May Warbler, for instance, being duplicated some years before the phenomenal season of 1882.

As purely local lists draw their chief scientific value from the record they afford of the geographical distribution of species, and their principal interest from the amount of progress in investigation they mark, it is to be hoped that the next list may be compiled by some one not interested in keeping work done nearly a quarter of a century ago from becoming antiquated, or willing to rest on ever so well earned laurels.—L. M. McCormick, *U. S. Nat. Museum, Washington, D. C.*

Notes on Certain Birds observed on a Voyage from Liverpool to Quebec in September, 1883.—About the middle of September, 1883, I left England for Canada, and when far out on the ocean, was agreeably surprised to notice several well-known species of birds flying around and alighting on the rigging of the vessel. It may interest the readers of 'The Auk' to hear something of these migrants; as although it probably often happens that birds are met with by vessels crossing the Atlantic at that period of the year, there may be no passengers on board who take sufficient interest to note the various species.

The first bird that joined company with our vessel was a common British Hawk, the Kestril (*Falco tinnunculus*); this was on September 23, when we were about 500 miles from the Irish coast, in fine and comparatively calm weather. It did not stay with us long; but on the following day, Sept. 24, several other birds appeared, viz., three Hawks, a Pied Wagtail (*Motacilla yarrelli*), and two *Saxicolæ* (probably *Saxicola œnanthe*, the Wheatear). We were now nearly a thousand miles from the Irish coast, and the Hawks and other small birds continued to follow the vessel, one of the former catching a Stormy Petrel, which it proceeded to devour on the rigging of the ship. That evening two of the Hawks were captured by a sailor, and one of them survived the voyage. On the day after their capture I saw them, and believe they belonged to the American species of Pigeon Hawk (*Falco columbarius*). On the following day I caught two *Saxicolæ*, and as there was no chance of keeping them alive, preserved their skins, for I did not feel quite sure about the species.[*] On the 25th a third *Saxicola* appeared on the scene; and when in latitude 52° N., longitude 30° W., I noticed two more birds, the Land-Rail (*Crex pratensis*), and the Turnstone (*Strepsilas interpres*). These were particularly interesting to me, and I was able to obtain both of them soon after they alighted on the deck of the ship. The former was in fair condition; I kept it alive until the 28th, stuffing it with small scraps of raw meat, but owing to stormy weather it died on that day. The Turnstone was miserably thin and died in a few hours, though fed as the Land-Rail was. Harting, in his most useful 'Handbook of British Birds,' says of the Rallidæ: "Audubon gives two instances of this species [*i. e.*, the Carolina Crake (*Crex carolina*)] having been met with at sea, and as a proof that the short-winged Rallidæ are not incapable of sustained flight, it may be noted that during the voyage of the steamship Nova Scotia, from Liverpool to Quebec, in October, 1865, when in lat. 26° 28′ N. (?); long. 23° 24′ W., more than 500 miles from the Irish coast, a Virginian Rail (*Rallus virginianus*), came on deck and was captured. Both this and the last-named species visit the Bermudas annually, although this group of islands is distant from Cape Hatteras, the nearest point of the North American coast, about 600 miles. The well-known Corn Crake (*Crex pratensis*), too, is a summer visitant to Greenland, and has been met with on several occasions on the eastern coast of the United States."

I know nothing of the migration of the Turnstone on the American continent, but it usually arrives on the British coast in August, and last summer I shot many specimens on the 11th and subsequent days of that month, near the estuary of the River Mersey. At all times during our voyage, I noticed Gulls around the ship, and when in mid-ocean a small flock followed for several hours.—C. J. YOUNG, *Montreal, Can.*

[* It proved to be *Saxicola œnanthe*, the Wheatear or Stonechat. These specimens, which are in fall plumage, I have had the pleasure of examining, thanks to the kindness of Mr. Young.—J. A. A.]

trict extant, except those on which Coues and Prentiss had evidently entered the species, and which differed from *carolinensis* only on the label; (3) the improbability that, if such accurate observers as our authors had proved themselves to be, had ever seen an *atricapillus* they would allow a *carolinensis* afterwards to bear a wrong label.

In the severe winter of 1878-79, Mr. William Palmer obtained several specimens of *atricapillus* in the District, and now Coues and Prentiss replace the bird, remarking that "Mr. Jouy subtracted the species wrongly, as now appears" (p. 9); and again (p. 37), "in the original edition we gave this species as a winter resident, and correctly so, though the name has recently been expunged from the list by Mr. Jouy (Cat. B. of D. C., 1877.) . . . It seems that after all the two boys may have been right in stating, as they did with hesitation in 1862, that *P. carolinensis* is the ordinary summer Tit; and that specimens indistinguishable from ordinary *atricapillus* occur in winter." If any hesitation was felt by the authors in 1862, they fail to show it in their text, but entered both species on an equal footing as summer or winter resident. And they perpetuate the error in the present edition, instead of placing *atricapillus* among the rare winter stragglers, and *carolinensis* as a permanent resident.

Had the authors asked for general notes from even the few collectors they did consult, they could not have kept some of their species so rare as they did, their unique specimen of Cape May Warbler, for instance, being duplicated some years before the phenomenal season of 1882.

As purely local lists draw their chief scientific value from the record they afford of the geographical distribution of species, and their principal interest from the amount of progress in investigation they mark, it is to be hoped that the next list may be compiled by some one not interested in keeping work done nearly a quarter of a century ago from becoming antiquated, or willing to rest on ever so well earned laurels.—L. M. McCormick, *U. S. Nat. Museum, Washington, D. C.*

Notes on Certain Birds observed on a Voyage from Liverpool to Quebec in September, 1883.—About the middle of September, 1883, I left England for Canada, and when far out on the ocean, was agreeably surprised to notice several well-known species of birds flying around and alighting on the rigging of the vessel. It may interest the readers of 'The Auk' to hear something of these migrants; as although it probably often happens that birds are met with by vessels crossing the Atlantic at that period of the year, there may be no passengers on board who take sufficient interest to note the various species.

The first bird that joined company with our vessel was a common British Hawk, the Kestril (*Falco tinnunculus*); this was on September 23, when we were about 500 miles from the Irish coast, in fine and comparatively calm weather. It did not stay with us long; but on the following day, Sept. 24, several other birds appeared, viz., three Hawks, a Pied Wagtail (*Motacilla yarrelli*), and two *Saxicolæ* (probably *Saxicola œnanthe*, the Wheatear). We were now nearly a thousand miles from the Irish coast, and the Hawks and other small birds continued to follow the vessel, one of the former catching a Stormy Petrel, which it proceeded to devour on the rigging of the ship. That evening two of the Hawks were captured by a sailor, and one of them survived the voyage. On the day after their capture I saw them, and believe they belonged to the American species of Pigeon Hawk (*Falco columbarius*). On the following day I caught two *Saxicolæ*, and as there was no chance of keeping them alive, preserved their skins, for I did not feel quite sure about the species.[*] On the 25th a third *Saxicola* appeared on the scene; and when in latitude 52° N., longitude 30° W., I noticed two more birds, the Land-Rail (*Crex pratensis*), and the Turnstone (*Strepsilas interpres*). These were particularly interesting to me, and I was able to obtain both of them soon after they alighted on the deck of the ship. The former was in fair condition; I kept it alive until the 28th, stuffing it with small scraps of raw meat, but owing to stormy weather it died on that day. The Turnstone was miserably thin and died in a few hours, though fed as the Land-Rail was. Harting, in his most useful 'Handbook of British Birds,' says of the Rallidæ: "Audubon gives two instances of this species [*i. e.*, the Carolina Crake (*Crex carolina*)] having been met with at sea, and as a proof that the short-winged Rallidæ are not incapable of sustained flight, it may be noted that during the voyage of the steamship Nova Scotia, from Liverpool to Quebec, in October, 1865, when in lat. 26° 28′ N. (?); long. 23° 24′ W., more than 500 miles from the Irish coast, a Virginian Rail (*Rallus virginianus*), came on deck and was captured. Both this and the last-named species visit the Bermudas annually, although this group of islands is distant from Cape Hatteras, the nearest point of the North American coast, about 600 miles. The well-known Corn Crake (*Crex pratensis*), too, is a summer visitant to Greenland, and has been met with on several occasions on the eastern coast of the United States."

I know nothing of the migration of the Turnstone on the American continent, but it usually arrives on the British coast in August, and last summer I shot many specimens on the 11th and subsequent days of that month, near the estuary of the River Mersey. At all times during our voyage, I noticed Gulls around the ship, and when in mid-ocean a small flock followed for several hours.—C. J. Young, *Montreal, Can.*

[* It proved to be *Saxicola œnanthe*, the Wheatear or Stonechat. These specimens, which are in fall plumage, I have had the pleasure of examining, thanks to the kindness of Mr. Young.—J. A. A.]

quality, and not only are these noted by the Indians, but their mythology furnishes them with the exact when and wherefore the particular mark, color, or quality was received. From the white head of the Bald Eagle to the ruby on the head of the Ruby-crowned Wren, or on the throat of the Hummingbird, every characteristic marking is accounted for. It is in the recital of these and kindred tales that the long winter evenings are whiled away, and though one may receive different versions of the same story as told by different persons, they substantially agree.

The etymologies of these animal names are also of peculiar interest, since they well illustrate the primitive methods of word-making.

Indian classification of animals and natural objects is very little understood; and if any ornithologist can work out, for instance, the classes into which the birds known to a certain tribe are thrown, and ascertain the basis for such Indian classification, he will have made an important contribution to our knowledge of the workings of the primitive mind.

Other points of interest in this connection might be mentioned: but enough perhaps has been said to direct the attention of ornithologists to the interest and importance of this kind of work.

Very truly yours,

H. W. HENSHAW.

Washington, D. C.,
August 24, 1884.

A New Element in Diagnosis.

TO THE EDITORS OF THE AUK:—

Sirs: I think it would be advisable for naturalists to give careful attention to the weight of the objects which they study. The descriptive ornithologist delineates the bird in regard to size, the length of body, expanse, wing, tail, tarsus, bill, foot, etc.; respecting the color, he is careful to describe minutely different shades, tints, and stripes, but generally nothing is said of the *weight.*

Of the eggs, the measurements of length and breadth are given, to hundredths of an inch; the color, whether immaculate or spotted, lined or splashed, wreathed or scrawled, the markings regularly or irregularly distributed; the ground-color and markings described to delicate tints and shades—though usually, but not always, the maculates are uniform in substance-color, the differences being due to the deposition of coloring matter at successive stages of shell-formation—*but nothing in regard to the weight of the eggs.*

In birds of the size of the Robin (*Turdus migratorius*), it might not be advisable to express the weight in terms lower than drams, perhaps; in the smaller species the weight should be given in grains, and the larger in ounces and pounds, or their equivalents in the metric system. The weight of the eggs should be expressed in grains, drams and ounces, according to their respective bulk.

This matter would require some skill and expense, and not every ornithologist is so situated as to attend to the subject. but some could doubtless perform the work with little trouble, and the weight would add much to the stock of knowledge.

Weigh the fresh bird in the flesh when received, making due allowance for the shot in the body; weigh the eggs when they are measured, noting the fact of their freshness or embryonic condition, and weigh the nest when it is ready for the show-case.

The remarks on the subject of *weight* will apply equally to the students of some other branches of natural history; to the mammalogist, the herpetologist, the ichthyologist, and to the entomologist, in a part of their work at least.

Very respectfully,

Somerset, Mass. ELISHA SLADE.

[The weight of birds would certainly form an item of interest, and the variation in this respect presented by a series of specimens of the same species, taken at the same season, and also at different periods, would add really desirable information; but doubtless the variation, owing to the condition of the specimen as regards fatness or leanness, would be so great that weight would be found to have little diagnostic value.—EDS.]

NOTES AND NEWS.

AMONG the exhibits of the National Museum at the New Orleans Exhibition will be a selected collection of mounted birds, with a series of North American game birds, another of birds beneficial to agriculture, and a third consisting of those known to be injurious, as the leading features. In addition, there will be exhibited groups of the most characteristic birds from each of the great zoögeographical divisions of the earth, as Birds of Paradise, Pittas, and Lories, from New Guinea, Apteryx from New Zealand, Toucans, Macaws, Tanagers and Cotingas from South America, Pheasants from India, Plantain-eaters from Africa, etc., etc. The collection is now being prepared under Mr. Ridgway's direction and will be aranged for exhibition by Dr. Stejneger.

THE bird-collection of the National Museum has increased from 93,091 at the end of 1883 to 100,126 up to Oct. 7, 1884. 7035 specimens having thus been added since January 1. It may be of interest to the readers of 'The Auk' to know that the enumeration of the bird record was begun with 3696 specimens forming Professor Baird's private collection, his catalogue, written in his own hand, forming Volume I of the Museum Register of birds, which now comprises 18 volumes, containing a full record of the immense collection built upon Professor Baird's donation.

Professor Baird's cabinet, now merged with the general collection, consisted chiefly of specimens collected, prepared and labelled by himself and his brother Wm. M. Baird, and its value is further enchanced by many of Audubon's types, presented to Professor Baird by Mr. Audubon. All American ornithologists will rejoice that Professor Baird has lived to see so magnificent a collection grow from the comparatively small nucleus which he formed, and with which must be connected in his memory many pleasant associations; and they all hope that he may live to witness the steady development of what is now the best collection extant of North American and West Indian birds into one without a rival in any feature. As being, more than any other living person, entitled to the privilege, specimens numbered 100,000 and 100,001 are entered as donations from Professor Baird, to whom they were presented by Mr. Geo. N. Lawrence, the oldest active American ornithologist. One of them, a Common Crossbill, was shot by Mr. Lawrence in New York City in 1850, and the other, a Flicker, on Long Island, in 1862.

AT the meeting of the Ridgway Ornithological Club of Chicago, held July 10, the following papers were read: 'Migration of Birds through Brown Co., Wisc., Spring of 1884,' by S. W. Willard, giving notes on 71 species; 'Oölogical Phenomena,' by B. T. Gault, noting variations in the coloration of eggs of Swainson's Buzzard and other species: 'A day's observations on the Birds of Start Co., Ind.', by G. F. Morcom and H. K. Coale—notes on 77 species; 'Note on the Bronzed Grackle,' by H. L. Fulton. Dr. Velie exhibited a black Red-tailed Hawk, shot at Jacksonville, Ill., Dec., 1883.

MR. H. Nehrling of Pierce City, Mo., has begun the publication of a series of articles on the birds of Texas, in 'Der Zoologische Garten,' entitled 'Texas und seine Ornis.' The articles will be reissued later in book form, making a volume of about 350 pages. Mr. Nehrling is already well known as a popular writer on American birds, in both the German and English languages.

In selecting English names for our North American birds two cases have come before the A. O. U. Committee on Nomenclature and Classifications, on which they desire an expression of opinion from the readers of 'The Auk.' These cases relate to the names Vireo and Greenlet, and Junco and Snowbird. Responses indicating the writer's preference in respect to these alternative names, may be sent to the editor of 'The Auk,' and the name in each case having the greatest number of supporters will be adopted for the species of birds to which these names are commonly applied. Replies, to be available, must be received not later than Dec. 15, 1884, and the result of the ballot will be announced in the next (January) issue of 'The Auk.'

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Page	31,	line	16, transpose the words *Extent* and *Length*.
"	32,	"	14, for 1881 read 1882.
"	81,	"	38, for Smidt read Smit.
"	96,		last word, for *grævia* read *nævia*.
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"	106,	"	3, for of read on.
"	185,	"	6, add —C. H. M.
"	208,	"	4, for Pickering read Picking.
"	223,	"	33, for collection read Museum.
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